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ESOPHAGEAL STENOSIS FOLLOWING THE SWALLOWING OF CAUSTIC ALKALIES

NECESSITY FOR COMPULSORY LABELING OF POISONS SOLD BY GROCERS *

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Four little children threatened with starvation because of a cicatricial esophageal stenosis due to the swallowing of some form of caustic alkali to which the laxity of our laws permitted them to be exposed were under my observation within a year. These four cases are my excuse for addressing you on this subject. The law requires that the druggist shall label corrosive poisons "Poison" and the careful druggist adds antidotal advice. Next door to the druggist the grocer sells corrosive poisons having on the label not only no hint of caution, but having directly misleading statements, such as "won't injure the hands," "will not harm the most delicate fabric," etc. One brand of concentrated lye is marked "Caution." When I encountered this I thought, "At last I have found one preparation on the market whose manufacturer has a conscience that compels him to give some advice protective to little children." Alas, the underwriting, "Be sure to replace the lid after using," was intended only to prevent deliquescence of the granulated contents.

It is the general impression that concentrated lye is a relic of the old days of home-made soaps, but investigation shows that it is in common use in the household for labor-saving cleansing of all kinds. Its harmful effect on the hands conveys to the thoughtful some hint of the caustic nature of its contents. But the frequency with which patients with esophageal stricture, following the swallowing of concentrated lye, come in an almost fatal state of inanition to the esophagoscopist is an index to the thoughtlessness of the users of concentrated lye, and an urgent call for legislation that shall compel the manufacturer to label concentrated lye containers "Poison" and to state a few antidotes, even if this does diminish slightly the sale of such products.

Esophageal stricture from the swallowing of commercial lye has been for many years a lesion of common observation by those interested in the esophagus. The frequency declined with the more general substitution of cheap commercial soaps for the home-made product; but concentrated lye is still in extensive use for general scrubbing and cleansing purposes. Furthermore, strictures of the esophagus are again on the increase owing to the flooding of the market with a large number of proprietary "cleansers" for household use and "washing powders" for laundry use.

I have seen three cases of the most severe ulceration and sloughing of the esophagus from the swallowing of strong solutions of three of these proprietary preparations. I have had the preparations analyzed and all contained similar ingredients: an abrasive, a strong powdered soap, and a caustic alkali—soda ash. The proportions varied from 8 per cent. in the cleaners up to 40 and 50 per cent. in the laundry powders; but in none was the corrosive alkali so diluted as not to be caustic to the delicate esophageal mucosa of a child. And worst of all, the mixture was not thorough; therefore some portions were more concentrated than others, so that under certain conditions it would be possible for a child to get a concentrated dose of caustic. Another thing which doubtless contributes to the danger is the insoluble nature of the abrasive and the slower solubility of the soap. Thus a little water dissolves out the alkali in strong solution.

The accident in one case I have seen occurred through the child's swallowing the rinsings of the almost empty can. The economical mother was endeavoring to extract the dregs for use; and, totally unsuspicious of a preparation which could not "injure the most delicate fabric," set down the can within reach of the child. In another instance the cleansing powder had been sprinkled on the dishes in the dish-pan. From one cup it was not removed by rinsing, the powdered soap in its composition making it adherent, and from this cup the child drank. In the third instance the child drew water from a faucet into a cup that had been used to measure out a quantity of a proprietary washing powder for laundry use.

On not one of the containers of these three widely advertised proprietary caustic preparations was there one hint of the dangerous nature of the contents. There was no word of advice that some vinegar or oil or milk or cream might lessen the likelihood of the child dying of the agonizing burns, or the subsequent ulcerative esophagitis or stricture. On the contrary, the most misleading statements as to the harmlessness of the preparations are on every package, in every magazine, in every street car. One manufacturer's agent to whom I spoke said: "Why, if we labeled our goods 'poison' and gave an antidote nobody would buy them." Comment is unnecessary.

My reason for bringing this matter before this section is the hope that some of you will take the matter up and see that the laws that compel the druggist to label corrosives that go into the medicine closet "poison" shall likewise compel the manufacturer so to label the corrosives that are infinitely more dangerous because they go into the kitchen. Considering the cosmopolitan character of our population, and especially of our domestic servants, the caution label should be in many languages.

* Chairman's address before the Section on Laryngology and Otology of the American Medical Association, at the Sixty-first Annual Session, St. Louis, June 7-10, 1910.

If the existing laws do not apply to the grocer as well as to the druggist, then, you doubtless all agree with me in the opinion that the laws should be amended. I leave this to those better able than I.

In conclusion, I beg you to look into your own kitchens and find whether or not caustic alkalies are used with a reckless disregard of their poisonous nature.

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CHANGES IN THE NOSE AFTER WIDENING THE PALATAL ARCH *

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For some time we have known that widening the palatal arch resulted in widening of the nasal chambers. At least, we have had every reason to conclude this from the reports of many patients regarding the great improvement in breathing after this had been done. I am sure that all are familiar with the work of G. V. I. Brown and Nelson Black on the improvement in breathing of patients with contracted nares after widening the arch; also the influence it has had on the straightening of deviated septa.

In 1908 I showed before this Section by actual measurement the increase in the breathing-space of the nose in green skulls after widening the palatal arch. So far as I have been able to determine, these measurements have not been reported as having been made on a living subject. As there is still some skepticism regarding the increase of breathing space by widening the palatal arch I wish to report the measurements of a case.

As long as we depend on patients' expressions regarding their improvement there may be a slight basis for doubt. With the actual measurements before us there can be none. This method of measuring has been the result of several years' work. It has been tried repeatedly with constant results, on patients on whom no work has been done. To measure the nose I use a septimeter (see illustration) devised by myself for this purpose.

I will give the history and measurement of one case only, as that will serve as an illustration. I made no measurements myself; all were made at my request by Dr. W. F. Boiler, assistant rhinologic surgeon to the University Hospital, because I wished them to be made by one not interested in the results.

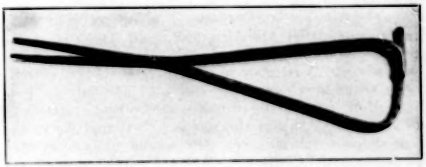
All measurements were made under the same conditions: namely, with the mucous membrane shrunken by continuous application of cocain 20 per cent. and adrenalin 1 to 1,000 for twenty minutes.

Patient.—Miss L. D. Y., aged 8, referred by Dr. Jones, of Kalona, Iowa. The patient gave a history of being a constant mouth-breather. She could not remember ever having been able to breathe through her nose. She suffered very much from temporal headache. This was not influenced by use of the eyes. The attacks of headache were not periodic. The headache was made worse by taking cold. She took cold very easily.

Examination.—Patient was very dull mentally. The face was narrow, owing to poor development of the superior maxillæ. The nose was very thin. The turbinates were normal in size but pressed tightly against the septum. On the right side was a medium-sized posterior spur.

Treatment.—It was a typical case of the nasal breathing being impossible because of the nose being too narrow, not because of pathologic tissue. The spur was removed. Two months later nasal breathing was little better than at first. The palatal arch was exceedingly high and narrow. As the turbinate tissue was normal there could be no excuse for removing it, entire or in part, so I asked Dr. G. V. I. Brown to widen the arch. Expansion bands were fitted to the teeth on each side and attached with rigid metal bars. Across the mouth a tube attached firmly to the connecting bar upon one side, fitted over a threaded bar, also solidly attached to the bar on the opposite side. A nut was adjusted, which when turned made pressure across the mouth. The appliance was cemented into place and when finally adjusted, was so arranged that pressure was applied directly across the palate at its narrowest portion with resistance against all the teeth from the cuspids to the molars upon each side. When the maxillary bones had been sufficiently separated and the nose correspondingly widened, an appliance was adjusted with a screw, nut and tube by which pressure was exerted from before backward. When the arch had been sufficiently lengthened on this side to admit it, the teeth which had previously occupied a portion of the palate, were drawn outward into proper line.

In the accompanying table are three sets of measurements: Column A shows the measurements before widening was begun; Column B, the measurements made during the widening process; the measurements in Column C were made after the widening was completed. The measurements are expressed in units as measured in the handle of the septimeter.



Septimeter for measuring the nose.

MEASUREMENTS BEFORE, DURING AND AFTER THE WIDENING PROCESS MAY 28, '09.

	A.		B.		C.	
	R.	L.	R.	L.	R.	L.
Anterior end inferior turbinate to septum	5	6	8	9	9	10
Middle inferior turbinate to septum	5	4	7	6	7	6
Posterior end inferior turbinate to septum	10	12	10	12	12	12
Anterior end middle turbinate to septum	2	2	2	3	4	4
Middle middle turbinate to septum	1	2	2	2	2	4

Result.—The subjective improvement of the patient was the very best. She spoke of breathing comfortably for the first time during her life. The objective improvement was very manifest. She is now a nasal breather both by day and night. Her general health is better. She is certainly wonderfully improved mentally. Her face is broader.

The figures show that the widening effects the nose throughout antero-posteriorly. Also the middle meatus is affected as well as the inferior. Consequently the sense of smell should be benefited. I regret very much that observations along this line have not been made.

These measurements corroborate the measurements that were made on a green skull and reported to this Section two years ago.

ABSTRACT OF DISCUSSION

DR. EUGENE S. TALBOT, Chicago: These measurements show the actual conditions present when the dental arch is spread. One important point which should be emphasized is that the turbinates are not destroyed. While I am not a rhinologist, it seems to me that that is the last thing which should be done. The dental arch should be spread first, and

* Read in the Section on Stomatology of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

then if the rhinologist thinks there is plenty of room the operation should not be undertaken. It is important that as much mucous surface should remain in the nose as possible.

DR. M. H. FLETCHER, Cincinnati: In my own mind there is a question as to the solidity of the tissues when pressure is put on them. A suture, particularly of the skull, is particularly strong in its indentation. Is it always sure that division will occur in the suture between those two bones and divide in the nose? Have any of you had any experience in having separation at any other place than where you desired? It is impossible for us to see the thickness of the bone. I can conceive of a case of very heavy bones, in which there would not be separation in the proper place. Have any of you had any such experience? I should be glad to have any light on the question whether or not a separation at any other place than the suture would have a good or a bad result. Separation must come on one side of the septum or the other, must it not?

DR. G. V. I. BROWN, Milwaukee, Wis.: No, the ideal condition is separation between the central incisors. In view of the fact that the premaxilla is completely divided from other divisions of the superior maxilla in early life, it is curious that ossification becomes so complete on each side, and the median suture so marked. There is no longer a question as to where and how the maxillæ separate. One of the questions evidently applies to those cases in which the suture is dovetailed. My own opinion is that under such conditions the little interlocking portions of the suture are fractured.

In some few instances we have not had the outward and visible sign of maxillary division, which of course is indicated by separation of the incisors. In those cases we have usually had good results also, but they were not such unusual types as Dr. Dean's patient. Sometimes I think that the premaxilla does not always unite in exactly the same way, because the separation occasionally appears between the central and lateral instead of between the two centrals. This ultimately readjusts itself, because an increase on one side gives more freedom for the septum to adjust itself.

DR. L. W. DEAN, Iowa City, Iowa: I do not like to theorize in this matter, so far as changes in the nose are concerned. It has not been worked out completely, and I am afraid Dr. Brown and I would not agree as to how we get straightening of the septum after widening the arch. Work is being done, and a year from now it will be more definitely decided. I think this patient is going to have more breathing-space a year from now than she has at present. When I saw this patient after the first widening had been done, I could put a lead-pencil in between the incisors in front. I hastily wrote to Dr. Brown and got a letter from him that he was ready to have these teeth brought together. This was done very nicely. We have widened the arches of skulls of subjects over 40 years of age. They have all opened along the median line.

AN APPARATUS FOR SUPPORTING AND HOLDING THE HEAD AND SHOULDERS IN CEREBELLAR AND HIGH SPINAL OPERATIONS

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FARGO, N. D.

The difficulties attending suboccipital and high spinal operations are largely due to the depth of the cerebellum and cord. Access to these parts is not easy on account of the difficulty of holding the patient's head and shoulders in a position that will allow a fixed field of operation, and at the same time not interfere with the patient's respiration and the administration of the anesthetic. This is especially true in trephining over the cerebellum with the patient in the prone position.

I devised the apparatus here described to obviate these difficulties. I first demonstrated its usefulness at the Boston Children's Hospital in an operation for cerebellar tumor. The satisfactory use to which this simple apparatus has been put in the past two years by various Boston surgeons, both in operations for cerebellar exploration and cervical laminectomy, leads me to believe that as an aid in these operations the apparatus is worthy of mention.

DESCRIPTION

Figure 1 gives details of the head support. The apparatus consists of a base (Fig. 1), an extension (Fig. 2), a head support (Fig. 3), and two shoulder supports (Fig. 4).

The base (Fig. 1) is an oak plank, 17 by 8 by 1¼ inches. A semicircular piece, 8 inches in diameter, is cut out in front. There are two one-half inch holes, bored through the width of the plank 10 inches apart (a, a). These are to accommodate the extension. There are two set-screws, one at either corner in front (b, b), to receive the shoulder supports.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Figs. 1 to 4.—Details of head support. Fig. 1, base; Fig. 2, extension; Fig. 3, head support; Fig. 4, shoulder support.

The extension (Fig. 2) is a three-eighths-inch iron rod, 48 inches long, so bent as to form two horizontal arms 18 inches long (c, c), and a transverse rod (d) 10 inches long. The horizontal arms are bent downward at an angle of 45 degrees 13 inches from the ends. At the center of the transverse rod is a set-screw (e) to receive the head support.

The head support (Fig. 3) is a three-eighths-inch square iron rod 12 inches long, to one end of which is attached a semicircular piece of iron 7 inches in diameter and one-half inch wide. To this iron is riveted a heavy piece of mill-board which has been molded to make a quarter sphere.

The shoulder supports (Fig. 4), two in number, are three-eighths-inch square iron rods 10½ inches long, and bent at right angles 7 inches from the ends. To the short or upright arms are attached semicircular pieces of iron one-half inch wide and 4 inches in diameter.

In use the head piece is covered with a sterile towel and the shoulder pieces are padded and bandaged. The apparatus is attached to the ordinary wooden operating table by two iron clamps.

The head piece, extension and shoulder pieces permit wide adjustment. The head of the patient can be raised, lowered, extended or flexed, and the shoulder pieces can be adjusted laterally to conform to the width of the patient's shoulders.

The illustration (Fig. 5) shows the apparatus complete. The diagram (Fig. 6) shows the position of a patient for operation.

Fig. 5.—Apparatus complete.

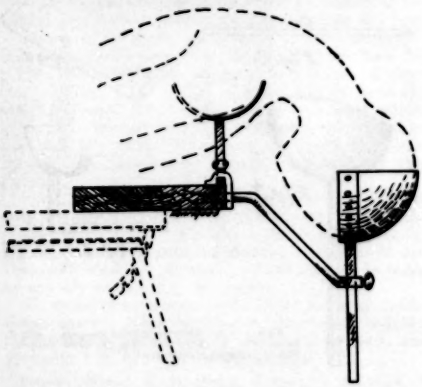

Fig. 6.—Diagram showing position of patient during operation.

THE ADVANTAGES OF THE APPARATUS

The head of the patient is held in such a position as to afford a firm, immovable base against which to work.

The patient's chest is supported, allowing free respiratory movements.

The anesthetist is relieved of trying to do two things at once, namely, to hold the patient's head and give the anesthetic.

The apparatus is simple, has a wide range of adjustability and is cheap. It could be made lighter and could be more beautifully finished, thereby adding to its cost without in any great degree increasing its efficiency.

620 Front Street.

ENTEROPTOSIS, WITH SPECIAL REFERENCE TO ITS ETIOLOGY AND DEVELOPMENT

AND REMARKS ON THE RESULTS OF EXAMINATION OF FOUR HUNDRED WOMEN WITH REFERENCE TO THIS CONDITION *

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The literature dealing with enteroptosis is a most voluminous one and I shall attempt nothing but a brief review of it. The subject is so unusually complex and presents so many different phases that it has led to much theoretical discussion, much of which has proven to be of little value. Our real advance and the best papers have come from those who have based their opinions on actual observations.

To Glénard,[1] who in 1885 published his paper which to-day is a classic, belongs the credit of calling the attention of the profession to the existence of this condition. Glénard believed that the whole trouble came from a sinking of the hepatic flexure of the colon. From this conception he built a most elaborate theory, which we know to-day has but little on which to stand. Glénard,

Fig. 1.—Typical enteroptotic figure. Fairly well-nourished. Muscular sufficiency poor. Thorax depth 17 cm., width 17.5 (!), index 94.5 (!), height 153 cm. (5 ft.), weight 94 lbs. Right kidney palpable; lower pole of stomach below umbilicus (gas). Pain in right side, well-marked neurasthenia. Note small size of thorax as compared with pelvis; small, long waist.

however, recognized the type of individual in which enteroptosis was found and his description of it remains a classical one.

For five years after this the discussion remained confined to the French literature. In 1890, however, Ewald,[2] in a thoughtful and conservative article, brought the matter before the German profession. He gave Glénard credit for his discovery, but criticized many of his conclusions.

Stiller,[3] in 1896, pointed out the hereditary character of the condition and elaborated his floating tenth rib

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Glénard: Application de la méthode naturelle à l'analyse de la dyspepsie nerveuse: détermination d'une espèce, Lyon méd., 1885, xlviii, 492.

2. Ewald, C. A.: Ueber Enteroptose und Wanderniere, Berl. klin., Wchnschr., 1890, xxvi, 277, 304.

3. Stiller, B.: Ueber Enteroptose im Lichte eines neuen Stigma Neurasthenicum, Arch. f. Verdauungskr., 1896, ii, 285.

idea, which is often cited to-day. The profession has not verified the close association which Stiller seems to have found between enteroptosis and a floating tenth rib, but is inclined to look on it as an anomaly often occurring, to be sure, in the habitus enteroptoticus, but as well in other individuals and of too uncertain a connection to place much stress on. Stiller's two articles, however, reflect a most careful study and observation, and his work will always stand preeminent in the history of enteroptosis.

Perhaps the next most notable piece of work done was that of Mathes,[4] who, although particularly interested in the mechanical conditions leading to prolapse, gives a most excellent description of the habitus enteroptoticus and the body form and calls particular attention to the general nature of the trouble. Mathes' article is also based on four years of study and observation and marks a distinct advance in the study.

An article by Albu[5] last year repeats and endorses much of what Mathes has said and is an excellent and useful piece of work. Albu has apparently fallen into error, however, when he concludes that because the kidneys and livers of a large number of new-born infants are palpable, the visceral prolapse itself is congenital and exists from childhood up. To this Butler, in a paper based on a study of one hundred and fifty-five children, has called attention.

An article by Martin,[6] of Chicago, and one by Victor[7] are well worthy of citation, since they reflect a belief that the condition points to an arrest in the development of the embryo or a reversion to a lower type.

My own interest in the subject began some five years ago and was considerably stimulated by Mathes' article. I began examining, as a matter of routine, whenever practicable, the women who came to us. Most, but not all of them, presented symptoms referable to the pelvis or abdomen. I have examined formally over 400 such women and casually many more. After the usual pelvic and abdominal examinations, the weight, height, amount and condition of adipose and muscular tissue were noted and the form of the thorax and abdomen. I then obtained the index of Becher and Lenhoff and sought to palpate the kidneys. In the standing position, the form of the trunk, back and abdomen were observed and with the pelvimeter the depth of the chest at the end of the sternum and the width at the waist line were measured. I noted also the epigastric angle and the downward slant of the lower ribs. Lastly, the stomach was dilated and, in a prone position, its lower border, as obtained by this method, was recorded. In a considerable number photographs were obtained or other special examinations made. The mass of figures obtained became long since rather unwieldy and of but moderate value for statistical purposes. The study, however, has been a most interesting one and has yielded much that has been of

Fig. 2

Fig. 3

Fig. 4

Fig. 2.—Enteroptotic figure of very marked degree. Marked ill nutrition; marked muscular insufficiency. Thorax depth 13 cm. (!), waist breadth 20 cm., index 97 (!), height 147½ cm. (4 ft., 10 in.), weight 74 lbs. Palpable right kidney, lower pole of stomach in pelvis and very marked prolapse of colon (*x*-ray). Marked digestive disturbance, extreme and apparently hopeless neurasthenia. Note slenderness of form, extremely poor nutrition, marked lack of lumbar lordosis, rounding of shoulders (but fairly sufficient anterior abdominal walls), also smallness and collapse of chest, downward slant of lower ribs and long neck.

Fig. 3.—Typical enteroptotic figure, fairly well-nourished, little muscular insufficiency, palpable right kidney, lower pole of stomach two inches below umbilicus (gas method). Has good health. Note size of thorax and waist as compared with pelvis. Thorax depth 15 cm., width of waist 18 cm., index 88., height 170 cm. (5 ft., 6⅝ in.), weight 116 lbs.

Fig. 4.—An enteroptotic figure with extreme emaciation, shown simply to bring out certain points referred to in text. Note small collapsed thorax, the sharp epigastric angle, the wide intercostal spaces above, the ribs lying close together below and slanting sharply downward and inward; the small waist with corresponding small upper abdominal cavity. Patient presents marked physical weakness, disturbances of many functions and is otherwise apparently a hopeless neurasthenic.

4. Mathes, P.: Ueber Enteroptose, nebst Bemerkungen über die Druckverhältnisse im Abdomen, Arch. f. Gynäk., 1906, lxxvii, No. 2, 357.

5. Albu: Die Bewertung der Visceraiptose als Konstitutionsanomalie, Berl. klin. Wchnschr., 1909, xlvi, 289.

6. Martin, F. H.: Visceral Prolapse; Some New Points in Etiology, Surg., Gynec. and Obst., 1908, vii, 638.

7. Victor, Agnes C.: Introduction to the Study of the Fundamental Cause of Spanchnoptosis—Abdominal Incompetence: A Developmental Factor, Boston Med. and Surg. Jour., 1906, clv, 139

value to me. Above all, it has served to give more accurate information as to the relationship existing between the various phenomena presented by the condition under discussion. In many phases of the matter, as in those that have been the special subject of our inquiry, I realize there is still much hard work to be done. The problems presented are most intricate, and I believe that little real advance will ever be made in them by theorizing or speculation.

The *x*-ray played a considerable part in my earlier study. With Dr. Henry Hulst,[8] under the bismuth meal and the *x*-ray method, I studied some forty or fifty women; and, although perhaps this feature of the work was not exhaustive, it served to establish definitely the relationship of body form to the prolapse of the viscera and to revolutionize our ideas as to the position and form of the stomach and intestines. In an earlier publication[9] are given the results of the *x*-ray examinations we had made up to that time and I have not materially changed my ideas since then.

Fig. 5.—Typical enteroptotic figure of adult form in child of 12 years of age. Very poorly nourished, muscular insufficiencies well marked. Height 152 cm. (4 ft., 11½ in.), weight 73 lbs. (73!). thorax depth 14½ cm., waist breadth 17 cm., index 85. Right kidney palpable, lower pole of stomach ½ in. below umbilicus. Frail nervous child, otherwise in good health. (Left kidney had been recently removed for injury.) Note slenderness of form, lack of adipose tissue, small slender muscles and small thorax.

From early observations I soon learned that the two terms "congenital" and "acquired," as belonging to the two supposed types of enteroptosis, were far from satisfying: the one varies from the other not only in the matter of etiology but in many other of its manifestations. The division, I believe, is apt to convey a wrong impression. I wish to discuss the acquired form briefly a little later and in its place, but for the present and for clearness it would seem best that it be put aside and that we deal simply with the true or essential condition.

It may be well first to give a brief description of the enteroptotic woman (Figs. 1, 2, 3, 4.) The first impression one gets of such a woman is that of frailness, expressed in the contour of her form and often in her features. She is slender and has but little adipose tissue; her form is angular; her muscles are thin; there is almost invariably a perceptible laxness and softness of her tissues. She impresses one as being underdeveloped and lacking in vigor. These may be designated as fundamental characteristics. Associated with and largely dependent on these characteristics, one notes in such an individual that the neck is long, the chest undersized and showing distinct signs of collapse; that is, it is shallow, the upper ribs far apart, the lower ones slanting downward and inward and lying close together, and there is a distinct lessening of the capacity of the thoracic abdomen. The abdominal muscles are soft and lack resistance (muscular insufficiency) and there is a tendency for them to bulge forward. This bulging is rarely present to any marked extent in the nullipari and in a large number of cases it is practically lacking altogether. In the parous woman it is oftener present.[10]

The changes in the chest and upper abdomen above noted take place, largely at least, during the growth of the child to maturity—they are the permanent changes;

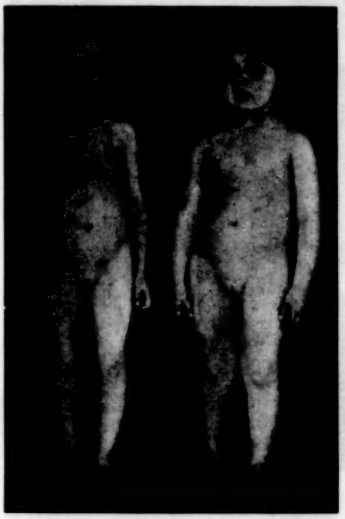

Fig. 6.—Figures of children, each 5 years of age. The one is frailer, less vigorous, less well muscled, less fat than the other. Shown to illustrate the type which we find in the history of the enteroptotic woman.

at least, they are the most difficult of any material correction. These women are peculiarly apt to suffer from muscular insufficiency. We see it very apparent in the lessening of the lumbar lordosis, in the rounding back, the forward droop of the shoulders and, not infrequently, in weak-foot. The last-named important changes in body configuration, due to muscular insufficiencies, are by no means always conspicuously present and are to be looked on, generally speaking, as signs of fatigue. They are less permanent in character and are frequently materially bettered as the woman improves in health. I have not been able to note any marked differ-

8. Hulst, H.: Skiagraphy of the Stomach and Intestines, Physician and Surgeon, Detroit and Ann Arbor, 1905, xxvii, 391.

9. Smith, R. R.: Enteroptosis, with Special Reference to the Body Form: The Mechanical Conditions Governing the Abdominal Organs and the Use of the *X*-ray in Demonstrating Stomach and Intestines, Surg., Gynec. and Obst., 1906, iii, 130 (discussion).

10. The popular close association between enteroptosis and the size of the abdomen must be somewhat modified. The most marked prolapse often occurs in an abdomen that is nearly flat, and a bulging abdomen often encloses organs fairly well in place.

ence in the height of these women, although Mathes speaks of them as undersized and Albu as taller than others. One sees them short or tall, as are the more vigorous ones. In weight they are decidedly lacking, owing to the want of adipose tissue and the slenderness of other body structures.

In forming an estimate of the degree of body abnormality, I have laid some little dependence on the depth of the thorax (measured with pelvimeter from lower end of sternum directly to back). In doing so the height of the individual must always be taken into consideration. The depth ran from 13 to 17 cm. in enteroptotic women and from 16 to 20 cm. in the more vigorous ones. The relative capacity of the upper abdomen was obtained by securing the measurement above mentioned and combining it with the width of the waist. The index of Becher and Lenhoff, obtained by dividing the jugulo-pubic distance by the circumference of the waist and multiplying the result by 100, is also of much value in making this estimate. The higher the index the smaller the capacity of the thoracic abdomen and *vice versa*. The size and form of the thorax and abdomen as seen and estimated externally will indicate closely the position of the abdominal viscera. One should note also the amount of adipose tissue in and about the abdomen, the condition of the body musculature and the retentive powers of the anterior abdominal wall. With these noted and with a little experience one may determine very closely the position of the viscera as a whole. One will find the prolapse of this or that organ sometimes varying considerably in relation to that of others, and he must not expect to make such estimates with mathematical exactness, but it is nevertheless true that the position of the viscera, as determined by palpation, percussion or the *x*-ray, corresponds very closely indeed to the outward signs above noted. The downward slant of the lower ribs and the epigastric angle (formed by the edge of the ribs, its apex being the lower end of the sternum) are useful and convenient signs in determining the collapse of the thorax and the size of the upper abdomen.[11]

In making a general estimate of the individual, however, relative to the enteroptotic habit, no one sign or condition should be entirely relied upon. It is practical to consider the amount of adipose tissue present, the condition of the musculature, the size and depth of the thorax, the size of the thoracic abdomen, the position of the viscera and perhaps, above all, the stability of the nervous system and any signs of its failure in normal function.

In speaking of enteroptosis one must distinguish clearly between the physical condition and the symptoms which the enteroptotic woman frequently develops. It must be recognized definitely that enteroptosis and good health, as we ordinarily speak of it, are not necessarily incompatible. We see

Fig. 7

Fig. 8

Fig. 9

Fig. 7.—Typical enteroptotic figure of the so-called acquired form, fairly well-nourished, muscular insufficiency well-marked. Thorax depth 17.5 cm., breadth of waist 22 cm., index 75. Right kidney palpable, lower pole of stomach above umbilicus (gas method). Marked digestive disturbance, pain in right side, neurasthenia. Note good size of thorax, low index, bulging anterior abdominal walls and rounding back (muscular insufficiency).

Fig. 8.—Statue of Venus de Milo. An ideal figure in Greek art, illustrating perfection in development and vigor. Note the muscular development, the large deep thorax, the capacious middle zone of the trunk. One finds that women approaching this ideal have organs in normal position. Compare with enteroptotic figures.

Fig. 9.—Picture from Stratz. Figure of a vigorous woman, the opposite of the enteroptotic one. Note well-nourished body, with sufficient adipose tissue, also the size and depth of thorax. The waist is large, corresponding to capacious upper abdomen.

11. As to the mechanical conditions producing prolapse, we note in such women certain conditions present: First, the lack of fat, which diminishes the volume of the abdominal contents and changes the contour of its cavity; second, the marked diminution in the size of the thoracic abdomen; and third, a laxness or hypotonus of the tissues of all the abdominal walls. The diminution in the size of the upper abdomen seems unquestionably due to a lack of usual strength or tone in the semirigid walls—call it muscular insufficiency if you will. The diminution in size becomes in turn a factor in the visceral prolapse. I may not here discuss the individual organs; suffice it to say the prolapse of each is evidently modified by the strength and mechanism of the structures which limit its motion. They are variously affected by the conditions named above. This matter of the mechanical cause is one about which there has been a great deal of speculation and little exact experiment or observation and I hesitate to enter into it. The factors I have mentioned seem to me, after a considerable study of the subject, those primarily concerned when considering mechanical causes and which I think must be fully considered in any argument on this phase of the subject. I should like to go into the many other theories advanced if time permitted.

constantly about us women of the most marked type who are in excellent health in the usual meaning of the term. They feel well, are free of pain and are able to take their places in society. As a class, however, they show less resistance to the strains of life than more vigorous women. Overwork, care and responsibility, indoor living, frequent child-bearing and poor food all bring enteroptotic women quickly to a state of fatigue, a lowered state of nutrition and an abnormal mental condition. With a few of them—the most exaggerated ones—the symptoms seem permanent and impossible of material alleviation. With many others the line between a satisfactory equilibrium and the existence of symptoms is narrow; the slightest strain is sufficient to disturb it. The symptoms that an enteroptotic woman develops are fairly well defined—pain in the back and groins, a feeling of weight and bearing down in the lower abdomen, disturbances of digestion, menstruation and urination, and a long series of disturbances psychoneurotic in character. It may, in fact, be said that the enteroptotic woman, when once her equilibrium is disturbed, develops symptoms principally neu-

Fig. 10.—Picture from Stratz. Figure of vigorous woman. Note the well-developed, well-nourished, muscular body, also the lumbar lordosis and size of the thorax.

rasthenic in character. Perhaps, however, they should not all be classified as such. The pain above referred to should, I believe, be ascribed largely to the muscular fatigue and, occasionally perhaps, to the strains and secondary phenomena which a faulty attitude induces.

In the study of enteroptotic women one early asks the question as to what part the prolapse of the organs themselves plays in the symptomatology; it is not uncommonly assumed that they are directly responsible for the pain, nervousness, disturbed function and ill health of the woman who has them. Here is a mechanical defect —what more simple than that it should cause the woman's symptoms? That this hardly reflects the truth is easy to determine. If we analyze the matter we find that, associated with visceral prolapse, we have first disturbances of digestion and, second, a feeling of weight and bearing down. In a large percentage of our cases at least, disturbances of function have plainly followed exhausting influences and are, I believe, to be regarded as symptoms of them. Although such disturbances occur very frequently in enteroptosis, they are of the same general variety as those seen in other neurasthenic women. Nervous exhaustion is, I believe, the immediate cause of the disturbed function; at least, in most instances, and I have found it to correspond to such exhaustion rather than to the degree of prolapse. It is not, I am convinced, due in the vast majority of instances to any mechanical obstruction—for example, the inability of the prolapsed stomach to evacuate itself because its lower pole lies low in the abdomen, or of a colon to evacuate itself simply because of its position. One frequently sees women with stomach and bowels prolapsed to a marked degree whose digestions are to all appearances good. The *x*-ray ordinarily shows no definite signs that may be safely interpreted as mechanical obstructions of the alimentary canal, nor does examination at operation show hypertrophy or dilatation, such as one would expect as the result of such obstruction. It is, however, perfectly possible that certain secondary changes may take place in such a colon as may cause abnormal function, but this I believe is not the rule.

The prolapsed organs do not ordinarily cause the pain referred to above. In a state of exhaustion it is common for the enteroptotic woman to have pain which is usually assumed to be caused by a dragging of the viscera on their attachments. The thought lies near that the pain is due rather to an insufficiency of the trunk muscles. This is one of the points in the study that will bear further investigation. Mere expression of opinion cannot, of course, decide it.

In a study as to the cause of prolapse one naturally asks the question when in the life of the individual it began. I have questioned some 300 women carefully in regard to the state of their nutrition and health during childhood and, although it would be almost impossible to classify satisfactorily the answers obtained, I have gathered from them certain facts. The enteroptotic woman of pronounced degree may always trace certain primary characteristics—namely, the lack of nutrition and vigor—to her childhood (Figs. 5 and 6). It is unquestionably a fact, then, that the frail, thin, weakly girls, who remain so during much or all of their childhood, become later enteroptotic women. In a vast majority of cases the anomaly may be traced with directness to a similar bodily condition in her immediate progenitors; that is, there is here a fixed hereditary factor of considerable moment, and we believe that this factor is of the utmost importance, not only in the matter of cause but also in prognosis and management. Its universal recognition and correct valuation by the profession is, I believe, of the utmost importance. I have not been able to show that these children are more liable to infectious diseases; nor, except in very rare instances, could their weakness and ill health be traced to any one illness. It has been my experience that the child who is naturally vigorous and lives in ordinarily hygienic surroundings regains rapidly his usual state of vigor following any temporarily depressing influence, such as acute disease; and I believe that such diseases cannot be said to be a marked factor in the establishment of the enteroptotic habit. I believe, however, that long-continued bad hygiene or chronic diseases affecting the nutrition may be determining factors in early life in its establishment, but this, in my experience, has been exceptional. As a result of failure to recognize the hereditary fundamental constitutional tendencies, efforts have not been uncommonly directed to the relief of local symptoms as if they existed independently. I believe

also that bad hygiene has a marked influence on inherited frailness and, conversely, that the best of hygiene may considerably modify its tendencies.

If one questions as to the extent of the prolapse itself during childhood, one must admit that but few exact observations have been made along this line. Butler, of Chicago, in a carefully prepared and excellent paper, read in the Section on Diseases of Children, has examined some 155 children. I have, myself, entered enough into the study to show how different the mechanical conditions are and how little one may depend on the signs on which one is accustomed to rely in the adult. Butler has shown, however, that the fundamental characteristics of the enteroptotic habit are present in childhood—namely, the lack of nutrition and vigor—and that there is at least some tendency to the peculiar adult configuration of form and a displacement of the organs to be found at or near puberty. He has found that prolapse of stomach and kidneys in early infancy should not be looked on as signs of the enteroptotic habit. No extensive *x*-ray examinations have been made to definitely determine the position of stomach and intestines in infancy and childhood.

What shall we call the congenital factor above mentioned? Noble would frankly call it a degeneration and would class it broadly with those other degenerations well recognized and of greater degree. He is not alone in this opinion. Martin believes that it is an arrest at some point in development from embryo or a reversion to a lower type. Because of the differences of opinion as to what is meant by the term degeneration and for other reasons, I would prefer at present to merely define it in the terms of the phenomena which are exhibited; namely, a tendency to backwardness in physical development, to poor nutrition and an unstable nervous state.

Lack of nutrition and flabbiness of tissues may be said to be the chief underlying mechanical causes of visceral displacement. Later in life child-bearing becomes a factor to be recognized, since it strains the already weak anterior abdominal wall and tends to increase the general laxness of the tissues. In this connection I may speak of the so-called acquired type of enteroptosis (Fig. 7). The woman, however vigorous and well developed during childhood and girlhood, may, through hard work, child-bearing, or other untoward influences, bring about a laxness of tissues and bulging of her abdominal walls; and in such a woman it is not infrequent to find a palpable kidney and other organs downwardly displaced. It must be emphasized, however, that the degree of prolapse of the abdominal viscera in these cases is of much less degree than that found in true enteroptosis. It is common, however, to see the conditions mixed. In the already enteroptotic woman, if the cause above mentioned is added the prolapse is still further increased.

In a physical study of these four or five hundred women I have met women of almost every age, state of nutrition, habit, attitude and body configuration. From the viewpoint of enteroptosis it has served to bring out the fact that enteroptotic women form by no means a sharply defined group by themselves. On the contrary, there is nothing approaching a line of distinction. On rare occasions the physician sees a woman who has an almost ideal physique.[12] Such a woman has a figure closely conforming to the ideal figure of Greek art—a deep, large thorax, a voluminous upper abdomen, tissues firm, muscles well developed and sufficient adipose tissue to round out her angles (Figs. 8, 9, 10). With this ideal at one end of the scale and the markedly enteroptotic woman at the other, one meets all gradations. The women that are commonly called enteroptotic are those in which the anomalies are well developed. As they advance in life many of them gain weight and in this state the fundamental defects in their constitution may be easily overlooked. An inspection of the thorax gives one the quickest hint as to the patient's true constitutional makeup. I have not been able to learn by *x*-ray evidence the effect of a gain in weight on the visceral prolapse but I believe it to be a considerable one for the better.

I have purposely left much to be considered by others. My idea here has been to give, if I could, a broad estimate of the subject in general, based largely on my individual study. Much remains to be done. The profession is slowly establishing a substantial basis for the more practical and useful problems that are to be met and dealt with. A clear recognition of the defects that these women have to contend with—their tendencies, the real nature of their symptoms and, above all, the early history of their lives—I hope, will lead to an intelligent management during childhood and more intelligently directed efforts later on.

Wonderly Building.

12. It must be understood that a large percentage of the women who come to the gynecologist are of less than the average vigor and that it is probable that a large number of ideal or nearly ideal women could be found in any community.

SURGICAL ASPECTS OF ENTEROPTOSIS *

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In order to obtain a useful and practical view of the surgical aspects of enteroptosis it seems important to refer at the outset to the causation and development and incidentally to prophylaxis.

Since enteroptosis as a definite condition was brought forcibly to the attention of clinicians by Glénard a quarter of a century ago, many careful observers have been convinced of the fact that patients who suffer from marked enteroptosis are as a rule congenitally deficient anatomically and that their deficiencies are constantly exaggerated during childhood and more especially in females during the increased physical and physiologic burdens of childbearing.

Four years ago, R. R. Smith[1] directed our attention to enteroptosis with special reference to body form; and recently Reynolds and Lovett have shown that the condition occurs in persons of peculiar postures whose bodies are not normally balanced when they are in the erect position. Round-shouldered patients with hollow backs, large pelves and small chests are especially well formed for the development of enteroptosis. This naturally suggests an important field for prophylaxis through careful orthopedic treatment, especially of young women and children. Reed and Robinson[2]

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Smith, R. R.: Tr. Am. Gynec. Soc., Philadelphia, 1906.
2. Reed, Boardman, Robinson and Neal, Frank: South. California Pract., November, 1908.

have observed gastroptosis in 37.6 per cent. of the tuberculous patients they had an opportunity to examine in a sanitarium.

Personally I have observed a very large number of children under the age of 12 who came under my care for the treatment of hernia produced from excessive intra-abdominal pressure in whom there was a marked degree of enteroptosis with diastasis of the recti muscles and pendulous abdomen.

The abnormal intra-abdominal pressure in these cases was due to one or more of the following causes: (a) digestive disturbances with gaseous distention of the stomach and intestines; (b) constipation; (c) phimosis with obstruction of the passage of urine; (d) chronic coughs complicating one or the other of the above conditions; (e) chronic appendicitis; (f) severe straining during the act of crying usually caused by pain due to one or more of the above conditions.

In these cases I have found that by removing the cause of the increased intra-abdominal pressure not only was it possible to cure the hernia without operation but the enteroptosis improved greatly in all cases and was entirely cured in many.

The intestines, no longer being overdistended, were able to contract to a normal size; the reduction in the amount of intestinal contents undoubtedly permitted the elongated mesentery to contract into its normal length; and the muscles of the abdominal wall were able to shorten and thicken and to hold the abdominal contents in their normal relation above instead of in front of the pelvis, especially when the treatment was instituted early enough to permit the diastasis of the recti muscles to disappear.

Aside from relieving the abnormal intra-abdominal pressure in these children, more especially by the regulation of time of feeding and quality of food and by this and other means overcoming constipation, their habits of rest were regulated so that they retired to their beds at 6. The foot of the bed was elevated so as to make an angle of 15 to 30 degrees between the planes of the bed and the floor. This virtually placed the patient during the hours of rest in the Trendelenburg position in order to force the abdominal viscera to gravitate toward the diaphragm, which enabled all of the supporting structures to recover from the strain to which they had been exposed by the abnormal intra-abdominal pressure.

The obstetrician has accepted his share of the prophylaxis and the orthopedist is at the present time eagerly searching out his share in this work. We must now ask the pediatrician and the dietitian to take their respective shares in reducing the number of these cases; then, after the gynecologist has disposed of those belonging to his especial field, the remaining cases must be viewed by the surgeon in a most critical way from several standpoints.

In the first place, in a vast majority of patients with enteroptosis this condition does not materially affect the disease from which the patient is suffering; and, in the second place, in a vast majority of patients in whom the presence of enteroptosis does affect or cause the disease from which they suffer, surgical treatment either fails altogether in producing relief or it introduces other conditions incidentally which in themselves cause abnormal conditions worse than those from which relief is sought.

Joseph Blake gives as an indication for operation the following conditions: First, it must be determined that the patient's suffering is due to enteroptosis; second, it must be clear that the condition cannot be relieved without surgical interference; and third, it must be reasonably certain that the condition can actually be relieved by a surgical operation.

It seems that enteroptosis is the cause only in cases in which its presence produces obstruction. The obstruction may be caused simply by a more or less marked angulation, or even by torsion, especially if the enteroptosis is complicated with adhesions. A stomach whose ability to empty itself in the normal period of time has not been impaired should never be operated on for enteroptosis. If the latter condition causes obstruction of the pylorus surgical treatment should be considered; consequently the presence of gastroptosis in itself should never be considered an indication for surgical treatment. The same is true of nephroptosis. In the examination of a large number of foreign-born working women I was able to confirm the statement of Pavlick that 75 per cent. of the women of this class who have repeatedly borne children have right-sided nephroptosis; but I have also found that this condition is of no importance unless it gives rise to obstruction of the ureter and overdistention of the pelvis, a condition which is usually due to an abnormal arrangement of the blood-vessels of the kidney. In most cases it is possible to demonstrate the acute bending of the ureter over the abnormally placed vessel. But the number of these cases is very small in comparison with the number of cases of nephroptosis.

There is also a small class of patients in whom the nephroptosis interferes with the circulation of the kidney giving rise to albuminuria. In these cases nephrorrhaphy is also indicated.

Enteroptosis of the small intestines is still less important unless complicated with adhesions which may be simply a complication or in other cases these adhesions may be partly responsible for the enteroptosis.

The splenic and hepatic flexures of the colon are the only portions of that organ that are rarely involved in enteroptosis; the cecum, transverse and descending colon and the sigmoid flexure may be found at any level of the abdominal cavity. This is probably due in most cases to faulty fetal development, as shown by Babcock and others. Whenever the malposition of this organ is sufficient to cause so much obstruction to the passage of feces as to impair the patient's health because of the resultant malnutrition or auto-intoxication, the operation introduced by Mr. Lane for the removal of the offending portion of the colon is undoubtedly the most rational form of treatment, but in this country this operation is but rarely indicated, primarily because the habits of Americans preclude the conditions of fecal accumulation encountered in so many patients of the lower classes in some European cities. In the greatly exaggerated conditions encountered in Hirschsprung's disease, excision is of course invariably indicated, preferably by the simple method described by Judd.[3]

In our clinic we find ptosis of the transverse colon in more than 25 per cent. of patients operated on for other conditions in whom this condition has no relation to the disease of the patient and is undoubtedly either congenital or due to abnormal intra-abdominal pressure during childhood.

In case of obstruction to the ureter due to nephroptosis nephrorrhaphy is indicated by one or the other of several efficient methods which have been thoroughly tried. In gastroptosis, causing pyloric obstruction the operation for

3. Judd, E. S.: Journal-Lancet, Jan. 1, 1909, St. Paul, Minn.

supporting the stomach introduced by Beyea[4] is indicated, because, while it overcomes the mechanical difficulty in the case, it does not fix the organ. All operations which serve to fix intra-abdominal organs for the relief of enteroptosis are bad because they introduce a condition resulting in much more harm than is done by the enteroptosis itself. The intra-abdominal organs are normally in a floating condition which insures comfort to the patient and protects these organs against jarring, hence the necessity of maintaining this condition.

The relief of the condition of ptosis of the pelvic organs has been thoroughly studied and described by those interested, especially in the field of gynecology.

Here also the fixation of organs has been wisely condemned. One condition should be mentioned here because it is constantly encountered both by the surgeon and by the gynecologist, I refer to the pendulous abdomen which Quincke[5] discussed fully in connection with all forms of enteroptosis. When present in connection with umbilical hernia it should be relieved by a very extensive sliding of transverse flaps introduced by W. J. Mayo for the treatment of umbilical hernia. When no umbilical hernia is present, then we should employ the method of overcoming the diastasis of the recti muscles introduced by Clarence Webster, consisting in laying bare the rectus abdominus muscle on either side of a median incision by laying open the fascia and then suturing all of the layers successively securing union between the internal edges of the recti muscles. In all cases, no matter what the condition may be, for which the patient has been subjected to an abdominal section in which enteroptosis and diastasis of the recti muscles are present, this operation is indicated.

The important point about this operation comes from the fact that it corrects the vertical relation of the intra-abdominal viscera to the pelvis, placing them above instead of in front of the pelvis.

We still have to account for a ptosis of liver, gall-bladder, urinary bladder and spleen.

In a moderate degree of ptosis of the liver relief can be obtained by making a longitudinal incision parallel with the right rectus abdominis muscle and splitting this muscle longitudinally for a distance of 5 cm. downward from the last rib and then suturing the gall-bladder to the edge of the wound, the sutures grasping peritoneum and transversalis fascia. The gall-bladder should be opened and drained for two or three weeks, which will usually result in a marked decrease in the size of the liver.

The same operation gives relief in patients suffering from ptosis of the gall-bladder, which is frequently accompanied with an accumulation of thick, viscid sandy bile or gall-stones in the gall-bladder with more or less obstruction of the cystic duct. These patients should cease wearing corsets and should wear their skirts suspended from their shoulders in order to remove the abdominal pressure from these sources.

In extreme cases of ptosis of the liver the anterior surface should be roughened by friction with dry gauze and a number of chromic catgut sutures should be used to unite the anterior surface of the liver with the parietal peritoneum. The fixation thus obtained is not nearly so satisfactory as the support obtained by the cholecystorrhaphy in the milder cases.

In ptosis of the spleen operation is indicated only when there is obstruction due to extreme mobility of the organ suspended by a long pedicle. A pocket may be formed of the peritoneum into which the loose spleen is fastened. I have removed the spleen in such cases, but the experience in either of these operations is too small to be valuable.

In all cases of enteroptosis, dietetic and hygienic measures must be employed in the after-treatment in order to eliminate as far as possible, abnormal intra-abdominal pressure from every source, but especially from gaseous distention and constipation.

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4. Beyea, Henry D.: Am. Med., Oct. 8, 1904.
5. Quincke, H.: Therap. d. Gegenw., 1905, xlvi, 10.

ENTEROPTOSIS—THE PHYSICIAN'S VIEW-POINT *

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It is possible that there has been an exaggeration of the importance of congenital gastroenteroptosis as a factor in the production of symptoms. Investigations by modern methods, as the *x*-ray, show that this ptosis is of frequent occurrence when not suspected. The individual is without symptoms unless some complication, as an inflammatory lesion, arises. Independently of such complication, if symptoms are present, they can be demonstrated to be due to other factors. These factors of ill health in the large proportion of cases are the result of antagonistic environmental conditions, which in an individual handicapped by congenital insufficiencies, are not met by healthful reactions of the organism. In consequence the organism is overwhelmed. The environmental conditions are those which make for effeminacy in our life. Modern types of living, overstimulation of the nervous system by all forms of excitement, improper diet, foolish amusements, excesses and irregularities of all kinds are the factors productive of symptoms in gastroenteroptosis. This view seems to be supported by the fact that the laboring classes are not often victims of that symptom-complex of general and visceral neuroses, which is so common in the leisure classes. It may also be said that the victims of the neuroses with enteroptosis are usually members of a family in a period of involution. They are luckless survivors of a family about to become extinct. They may have stigmata of degeneracy and are almost sure to have the type of thorax known as the phthisical or paralytic. If one traces the morphology of antecedent generations, it can be seen that with each generation there is structural evidences of physical decline.

Moreover, one is supported by the clinical evidence and by the results of treatment in the view that the enteroptosis is only part of a general condition, and is not of itself sufficient to give rise to symptoms. Through the clinical evidence we learn that the morphologic condition and the clinical expression of any gastroenteric insufficiency is seen in the statement that from childhood there has been poor health and that abdominal symptoms always obtain. Thus, in one hundred cases of gastroenteroptosis taken without selection from more than six hundred cases, and not divided into congenital and acquired, the evidence is strong that 37 per cent. had always been in poor health, while 27 per cent. had presented symptoms from a time when the strain of evolution was a factor added to the congenital condition.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Unfortunately, the history does not record the general conformation of the individual, which enables one to predict ptosis, and which prediction is almost always confirmed by exhaustive examination.

The results of the treatment or management of such cases lend further support to my view. I have in mind many individuals with gastroenteroptosis in childhood who, notwithstanding that they often were of involution family groups, escaped the many perilous ills familiar to us as belonging to this period, because of favorable environmental conditions. They had the advantage of a robust sensible home life and of conscientious, wise mothers. They had every environmental agency that makes for health, a rational education and normal amusements. Some of the girls have grown under my eye to be healthy mothers of families, and the boys to be wise dispensers of their strength, which has made them normal members of a community, though not overbearing because of their powers as athletes.

Finally, I may state that I have made metabolic analyses in ten of these cases of enteroptosis without finding any important evidence of malnutrition or perverted nutrition or of a toxemia which could fairly be attributed to an uncomplicated enteroptosis. Furthermore, I can state, although with some qualification, that whatever indications of toxemia I have found in such cases as indicanuria or alteration in the proportion of the sulphates, or of changes in the feces indicating fermentation, etc., such modifications can be ascribed by the neurosis which accompanies the congenital insufficiencies.

In short, with such a congenital morphologic condition, there is also a state of the nervous system attended by visceral hyperesthesia which if not carefully guarded against brings with it a state of introspection, the ensemble of which is typical of the neurosis of enteroptosis. Any attempt, therefore, to relieve such conditions must be directed not to any one part of the organism but to the organism as a whole. Any attempt which will render one part of the organism more hyperesthetic, as will operative procedures, will increase the neurosis, and delay recovery temporarily or even permanently.

If, then, we must not allow ourselves to consider enteroptosis as a single factor, what can be done to relieve any symptoms to which it apparently gives rise? I take it that we agree that such symptoms are the result of secretory neuroses, gastric and intestinal, and motor insufficiency with secondary toxemia. Let us inquire into the defenses and adaptive powers which the organism possesses, provided the individual listens to the responses of the organism as seen in the reactions it manifests. Unfortunately we are brought face to face with the problem long after the organism has become oblivious of these responses, when the reactions are negative features. Indeed it is the ever-watchful eye of the mother in the early periods of the child's life that usually detects them, and if bridge and teas and other diversions of our vaunted modern life do not distract her from her duties, she controls the reactions, represses them when in excess, stimulates them when deficient and carefully guides the child into normal adolescence and healthy manhood or womanhood.

The defenses the organism possesses against such insufficiencies are only those which conserve health. If watched for it can readily be seen that such an individual has limitations which must not be disregarded. The so-called bilious attacks, the attacks of exhaustion, of headache, of nervousness, the various neurasthenic and hysteric phenomena are expressions of fatigue of an organism which cannot mark time. The defenses of the organism are rest and temporary abstinence or moderation in all things. If these efforts of the organism are not frustrated by an ambition along the social or educational lines these defenses will be rationally encouraged. They will not be thwarted by the stimulants used to goad tired Nature and by narcotics, both of which it is true are likewise more in vogue later in life, establishing before long a vicious circle and reducing the organism to a state in which its existence depends on artificial conditions. In short, we must combat not only the congenital insufficiency, but also the fatigue neurosis which attends it.

It is not only by the defenses of rest (physical, mental and emotional), that we see the organism meet the insufficiency of its powers, but by adaptation also. This is seen in the development of a tolerance to any intoxication (an exaggerated factor, however, I believe), in the occurrence of hypertrophies to overcome obstructive lesions, and of secretory balance to mitigate any aberration in that line. If the organism has half a chance the chemical correlations and internal secretions will take care of the insufficiencies.

It will be asked if the organism has even a modicum of defense and adaptation, why it is necessary to invoke the aid of the physician. The answer is that the defensive and adaptive powers have not been heeded and that every excitation or irritability which arises from weakness of the organism invites excesses beyond the power of the organism. The individual does not live down to his strength but spends both income and capital to the verge of bankruptcy.

Inasmuch as failures of defense occur, as seen in women after nervous strain or after childbirth with its accompanying anatomic and physiologic changes, and in growing males after misguided athletic endeavors, or in still more vicious effeminacy and stimulation of the adolescent period, what can be done to aid the organism? Aid it needs, and in any attempt to assist we must realize that not only is the organism handicapped, but the symptom-complex indicates that the organism as a whole, its vital powers and environmental conditions, play a large, if not the most important part in the production of symptoms. It must be realized that it is not a disease but a condition which confronts us. It is one thing to manage a condition and another to treat a disease. The former requires all the resources we may have at our command along lines of physiologic therapeutics; the latter requires us safely to conduct the organism to health by methods of antagonism, neutralization, counteraction, destruction, direction and assistance, which are physiologic and pathologic. Above all, the former requires the wholesome tonic influence of a robust personality in the physician and other individuals associated with the patient. It is not for me to present a homily on hygiene. I may be permitted, however, to urge that the general principles and methods of hygiene should be invoked and applied in directions specifically suitable to the individual patient; that to this must be added an indirect therapy based on a correct estimate of the functional value of each organ or system. That it is necessary to treat the eyes, the muscular system, correct postural defects, and all the organs requiring it, goes without saying.

It is evident that there is no specific, and it is likewise evident that no insults to the nervous system are to be permitted by injudicious surgical procedures. A little relief can often be obtained perhaps psychically, but also physically by the use of a bandage. A notable

result by such treatment was seen in some of the one hundred cases previously mentioned. A bandage was ordered for nineteen patients in whom the history indicated a congenital origin; five were much relieved, ten a little relieved and four experienced no relief. About 25 per cent. thought it worth while to wear a bandage. Drugs may be employed, as iron, nux vomica, physostigmin, and also laxatives, of which the most effective is rhubarb. Now and then sedatives of mild form, as the bromids, sumbul and valerian, may be judiciously employed.

We must pause a moment to consider the congenital visceroptosis, on which acquired physical conditions are engrafted, which lead to obstructive symptoms, chronic constipation and its secondary disorders. A different condition confronts us. Hence the judicious surgeon or internist must estimate the relative effect on the organism of operative procedure, and of a continuance of the abnormal conditions. I am free to admit that the presence of inflammatory adhesions, of undue dilatation or of obstruction, demands the intervention of the surgeon.

Here also a word may be said of the patients with visceroptosis who cannot have the opportunities of hygienic treatment which I have spoken of. Such are unable to carry on their usual avocations and are practically helpless; for them a chance must be taken, and it may be wise to resort to surgical procedure.

The acquired visceroptoses are most amenable to surgical treatment. If judicious abdominal support, the repair of losses of external support and indirect and hygienic therapeutics are not of avail, resort to surgical procedure is necessary.

What I have said regarding operative procedure in congenital ptoses may have to be qualified with the turn of a night. The argument that the enteroptosis should not be treated by surgical measures because other congenital states exist, and notably those of the nervous system, might be applied to other congenital conditions. It might be said for similar reasons that one should not operate on hare lip or cleft palate. If we could recognize congenital ptoses early and before the neuroses develop we might be able to forestall the ill effects of insufficiencies. Who knows but that in the near future such early recognition will be possible, and early remedial surgical relief applied?

1927 Chestnut Street.

THE *X*-RAY DIAGNOSIS OF ENTEROPTOSIS *

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The *x*-ray diagnosis of enteroptosis is at once a simple procedure with definite conclusiveness. The *x*-ray furnishes a method to determine with exactness the position of the large and small bowel within the abdominal cavity.

This examination does not demand an *x*-ray equipment above the average. A 12-inch coil, with electrolytic interrupter and a tube capable of standing a primary current of 20 amperes for thirty seconds will suffice.

On account of the comparatively equal densities of the abdominal contents, it is necessary to render the colon transparent or opaque in outline. The following means may be used to adapt the colon to Roentgen examination:

1. Inflation with air, per rectum. This method is not satisfactory because the air-pressure within the colon is unequal, and, further, does not give an exact record of the lumen of the colon on the fluoroscopic screen or negative.

2. The distention of the colon with opaque emulsions, injected per rectum. Distention by injected emulsions produces a colonic distention with uniform filling pressure when properly conducted.

The technic of the rectal injection is as follows: The patient, having had an intestinal cleansing previously, is placed at ease on the left side, with hips elevated. There should be complete relaxation of the abdominal musculature. A soft rubber tube, about one-fourth inch lumen, is inserted, and the emulsion allowed to flow gently, as the first portion of the injecta may produce colonic contractions that would foil our purpose. The pressure of the flow should be about 8 to 20 inches. The injection should require about thirty minutes for 2 quarts of emulsion. The examination within the next hour will disclose the filling of the large intestine to the ileocecal valve. The average capacity of the adult rectal ampulla is 1 pint, and of the large bowel 3 quarts.

3. Distention of the colon with opaque substances ingested with food. By this method the residue of a bismuth meal is radiographed in the colon, sufficient time (usually sixteen to twenty-four hours) having elapsed since its ingestion to insure its presence in the colon.

Opaque substances of radiographic usefulness include, first, the bismuth salts—subnitrate, carbonate, subcarbonate and oxychlorid. Of these, the oxychlorid is best, not having any deleterious effects and not undergoing chemical change. The subnitrate has been discarded because of some unfavorable reports and the care necessary in its selection commercially. Second, the iron preparations, including manganate of iron.

For ingestion by mouth, these opaque substances must be held in suspension by a gruel, or porridge of rice, milk and bread, meal of peas, oatmeal, etc. I myself use about 2 pints of porridge, into which one or two ounces of bismuth oxychlorid is thoroughly mixed, flavored with raspberry syrup or grape-juice.

For an injection per rectum, I use an emulsion of 2 ounces of bismuth oxychlorid in 32 ounces of milk, with 4 drams of acacia to sustain the bismuth, or an emulsion of olive oil and bismuth oxychlorid. It is worse than useless to draw diagnostic conclusions from the injection of simple bismuth in water.

The *x*-ray diagnosis may be made by (1), fluoroscope, or (2), radiograph.

1. The fluoroscope examination should be conducted in a room of absolute darkness, on a good protected fluoroscopic screen of a size (11 by 14 or 16 by 20 inches) sufficient to cover the entire field of inspection. The fluoroscopic outlines of the opaque colon may then be charted on the glass covering to the fluoroscopic screen and this transferred to paper for a permanent record. If the physician or Roentgenologist is provided with fluoroscopic apparatus that protects the patient and operator, this examination may be conducted expeditiously and without the tedious detail of the radiographic exposure. But without good fluoroscopic apparatus, one is confined to a radiographic technic.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

2. The radiographic examination should be made with a plate not less than 11 by 14 inches in size, usually 14 by 17. The plate should be placed with the emulsion surface against the abdomen, the umbilicus having been marked with a copper cent, attached with adhesive, and the tube opposite the fourth lumbar vertebra and at a distance of 20 to 22 inches from the plate. The use of the usual *x*-ray plate will usually give sufficient detail with an exposure of ten to thirty seconds, with a primary current of 20 amperes, through a 12-inch coil and a tube of medium penetration. The topographic outlines of the colon alone being sought, it is quite satisfactory to shorten the exposure and increase the contrast by means of an intensifying screen, especially the new Gehler-Folie or Sinegram screen, which produce negatives relatively free from small flecks.

The interpretation of the radiographic and fluoroscopic shadows is greatly enhanced by study and experience. Before examining by the fluoroscope, the observers should remain in absolute darkness for ten minutes to secure an ocular accommodation. This is especially advisable to one unfamiliar with fluoroscopic shadows.

The landmarks of our *x*-ray picture are the umbilicus and ensiform cartilage, marked by pieces of metal, and the wings of the ilium. The shadow of the cecum should be within the wing of the right ilium. We may then trace the colon to the hepatic flexure. In a well-filled colon we may see the hepatic angle completely filled with the emulsion, but sometimes the apex of the angle will show some transparency produced by retained air. The splenic flexure is higher than the hepatic, and also shows a sharper angle with air at the apex. The shadow of the transverse colon should be noted in its relation to the umbilicus and its movability noted by direct abdominal manipulation. To determine the movability of the colon in radiographs, it is necessary to take two exposures; one with the patient standing, the second with the patient in the Trendelenburg or prone posture. The study of the movability of the colon and possible adhesions thereto is best accomplished by the fluoroscope.

The hepatic and splenic flexures of the colon may appear sharply angled with possible kinks. This is usually faulty interpretation, as what appears to be an angle is really a curve, the upper portion of the ascending colon being overshadowed by the first part of the transverse; likewise, the first portion of the descending colon may be overshadowed by the distal portion of the transverse colon. If there be a kink that obstructs, there is a damming up of the opaque emulsion on the side from which the emulsion was introduced.

To avoid errors in the estimation of the distance of the transverse colon above or below the umbilicus, it is necessary that the direction of the *x*-ray delivered from the *x*-ray tube strike the fluorescent screen or plate at a perpendicular, and at a point on the back opposite the umbilicus, about the fourth lumbar. In the study of a particular portion of the colon, where adhesions are suspected it is desirable to diaphragm down to the area on the fluorescent screen. This is not necessary in radiographs, as the entire colon may be studied at leisure, but without the advantage of continued observation under manipulation that the fluoroscope affords.

CONCLUSIONS

Having rendered the lumen of the colon opaque, it is possible to record exactly, either by fluoroscope or radiograph, the position of the colon in its relation to the umbilicus and bony skeleton. The fluoroscope will give diagnostic information beyond the radiograph, in that changes in position of the colon, due to manipulations and adhesions, may be studied.

616 Commerce Building.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SKINNER, MUSSER, OCHSNER AND SMITH, FORMING A SYMPOSIUM ON ENTEROPTOSIS

DR. MAX EINHORN, New York: I think it was in 1895 or 1896 that my paper on "Movable Kidney and its Treatment," was published in the *Medical Record*. At that time most movable kidneys that were recognized, were operated on, and I think I stood almost alone in the opinion that movable kidneys should not be operated on. It is not movable kidney alone that gives the trouble, but there is usually associated a movable stomach, or liver, or other organ. Such conditions are found more often in women than in men. Whether or not it is congenital is difficult to state. I am of the opinion that in some cases there is congenitally a tendency to develop such anomalies. That such conditions exist in normally developed children, who later develop affections that lead to enteroptosis, we have ample proof in the fact that proper treatment brings permanent cure. If the condition existed from birth this would not be so. Another point is that a strict diet is just the opposite to what is required. In all these patients, unless there is a strong contraindication, it is important to make them eat. The patient may tell you that he cannot eat eggs. If you will allow this to guide you, you will never succeed. Tell your patient to eat a little at a time, and that in two or three weeks he will find he can eat everything, and that is the only way to cure such patients.

I do not think that enteroptosis as such gives rise to great disturbance of the motility of the stomach. If you find food in the stomach in the morning with a prolapsed condition, the prolapse is not the cause of the stomach not being emptied. There may be some other condition associated. I would say that this is not a phenomenon of enteroptosis.

DR. R. C. COFFEY, Portland, Ore.: It is pleasant to see an afternoon devoted to this subject in a surgical section of the American Medical Association inasmuch as many of the leading surgeons of our country have absolutely opposed surgical treatment of these cases. The first patient whom I treated surgically was one in whom I could find nothing else wrong. The patient had gone from the condition of a strong, healthy woman to a condition of severe vomiting, just as if she had an obstructive ulcer at the pylorus. I had heard of nothing at that time that had been done on the subject. I told the patient's husband what I would like to do in the case and he consented. I sutured the omentum to the abdominal wall.

The patient fully recovered and weighs 160 pounds; she weighed 80 at the time of the operation. Since then I have operated on 22 other patients for ptosis of the stomach. I think Dr. Clark has given us one of the best pieces of advice to-day: not to operate for the pathologic condition as it appears from the clinical examination, but to operate for symptoms alone. I remember that Dr. Clark, some years ago, in a paper advocated this operation in certain cases in which he had incidentally found the stomach low down while doing other abdominal operations. I am glad that he has changed his opinion. We never should operate on the stomach simply because it is low. In but two cases have I operated in which the patient was not an absolute invalid. That is the rule that we should adopt. In only three cases have I operated for general ptosis. Most of my operations have been for prolapse of the stomach alone. Four patients had displaced liver and one or two had displaced kidneys. There were two cases of general ptosis; operation was done in two stages. In one case the patient had been an invalid for five years. The stomach was also prolapsed and the uterus retroverted, as is common in these cases. I anchored the stomach, liver and kidneys, and suspended the uterus at one operation. I found the congenitally narrowed condition which had been mentioned and on attempting to close the abdomen it seemed too small. I

had then turned the fascia of the rectus in from above, leaving only the posterior portion of the fascia, thus extending the abdomen at least two inches. Six weeks later, I made two incisions, one on each side midway between the umbilicus and anterior superior spine of the ilium, and parallel to the fibers of the fascia of the external oblique. The fascia was overlapped for two inches on each side, as shown in article in *Surgery, Gynecology and Obstetrics*, thus changing the entire contour of the patient's abdomen. The patient is doing her own work and feels absolutely well. In two other cases I did the same thing.

DR. C. F. P. KORSSELL, Chicago: I emphatically believe in the surgical treatment of enteroptosis. I have had some little experience and endorse the view of intra-abdominal pressure being a causative factor of great importance. In seventy-four women and two men operated on for enteroptosis by a new method, sixty-three had previous diagnosis and were deliberately operated on for its relief. Eighteen of them had previously been operated on for gynecological troubles without relief. My work has been in aggravated cases, in patients prostrated, useless, and with life a burden. They have been mostly those complicated with pelvic troubles and in quite a large percentage the small intestines were principally involved, being prolapsed into the lower pelvis below the promontory of the sacrum and bent back around its acute angle, usually with the uterus pressed down, retroverted and the fundus resting on the intestines, compressing them against the sacrum. The operation is done through a transverse or the usual incision, above the symphysis. After raising the intestines and emptying the pelvis completely of intestines, packing them out of the way, an incision is made in the posterior peritoneum about one inch long just to the right of the rectum, either transversely or longitudinally; then grasping the cul-de-sac of Douglas, or, in some cases, the neck of the uterus, well down with a tenaculum forceps and approximating it posteriorly to the sacrum just below the promontory and stitching it into the cut in peritoneum with chromicized catgut or silk, a firm anchorage is secured for the uterus posteriorly and permanent suspension. The same procedure is carried out to the left of the rectum with or without incising the peritoneum. The sutures are continued on each side from these central points of suspension for sewing the broad ligaments on the same level to the sacral peritoneum, a half-inch below the promontory, until the true pelvis is entirely closed up by a diaphragm of double layers of peritoneum, which experience has shown to be of ample strength to keep the abdominal organs out of the pelvis.

I have deferred reporting this work in the hope of having some of these patients come through pregnancy, but have so far waited in vain. However, I do not believe the condition produced would materially interfere or complicate natural labor, especially if one were not in too great haste. Such patients should have ample dilatation of the cervix before resorting to the use of forceps.

DR. J. H. CARSTENS, Detroit: Prevention is the great desideratum. The illustrations of Dr. Smith show the peculiar shape of the body, which indicates the tendency toward general abdominal ptosis. This being the case, we should prevent the latter by systematic development of the body by physical exercise and not too much school work. Why do we have so much ptosis and neurasthenia? Because many of the girls at this age are ambitious; they want to learn and to become stenographers, teachers or members of some other profession, and still they haven't the right kind of brain; they learn with difficulty; they must study hard, until late at night. To make matters worse, perhaps some good aunt pays for a music teacher and they also play on the piano during this stage of development, and then when they are 18 or 19 years old graduate from the high or normal school physical wrecks, with a certain amount of mental development and with a sour and cross temper. We must prevent this condition. Such a girl must stop her education for a few years; she can make it up easily afterward, if necessary. Such a girl must be sent to the country. Let her jump over the fences, chase the cows, feed the chickens, fall in the river, swim, row a boat; in other words, be a regular "tom-boy." With plain nourishing food, in the course of a few years she will develop into a strong, healthy woman with a virile body, withe not so much learning, but with a sweet temper.

DR. A. W. CRANE, Kalamazoo: It seems to me that the usefulness of the *x*-ray examination of the stomach and intestines by surgeons is greatly circumscribed. It is mentioned but little in the books, in journals and in works on the *x*-ray itself. It does not seem to be described in the books on general surgery and medicine. To my mind the *x*-ray examination of the stomach and intestines often furnishes more complete information than experimental operation. A surgeon may not be able to tell whether an ulcer of the stomach is present or not, even though he has the stomach in his hand, but he may be able to tell from the *x*-ray examination that such exists. It seems to me that except in emergency cases, no surgery of the stomach or intestines should be done until *x*-ray examination had been made.

ARTHRITIS OF GASTRO-INTESTINAL ORIGIN, ITS DIAGNOSIS AND TREATMENT*

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An obscure relationship between disorders of the digestive tract and joint affections has long been recognized by clinicians, and in the last decade some of these relations have become better understood. It is now known that severe cases of arthritis may occasionally be completely relieved by preventing absorption of intestinal contents in the large intestine. This may be accomplished by intestinal lavage, purging, regulation of diet, and by operations on the colon that cause fecal material to be discharged through artificial openings, thus putting the lower portion of the intestine entirely out of function.

Various intestinal affections may influence joints, and it is interesting to observe that typhoid fever and bacillary dysentery both are occasionally accompanied by joint lesions, while in appendicitis arthritic complications are too infrequent to seem more than mere coincidences. The few scattering cases of arthritis that occur with rarer diseases of the alimentary tract will be disregarded in this paper.

Keen[1] states that there were 84 cases of arthritis among 1,700 cases of typhoid fever collected by him, and Garrod[2] estimates that 3 or 4 per cent. of bacillary dysentery show joint complications. In the very common malady, appendicitis, Sutherland[3] has been able to collect only 6 cases in which there have been pronounced articular pains, and these seem to be too few to indicate any real relationship. Garrod[2] says that he has been unable to obtain any reliable instances of joint disease occurring with amebic dysentery, but W. E. Musgrave[4] records that chronic rheumatism both of the articular and muscular types is very frequently encountered, and in many instances seems to bear a very definite relation to amebiasis of the intestine. In comparison it should be remembered that gonorrheal arthritis occurs in 2 or 3 per cent. of patients suffering with the latter disease.

The joint lesions in typhoid fever and bacillary dysentery make their appearance after bacterial poisons have acted for several weeks. In practically all instances bacteria have not been found in the joint fluids.

* Bacteriologic examinations by Mr. Carl Ten Broeck and Mr. H. N. Jones, Department of Comparative Pathology, Harvard Medical School.

1. Keen, W. W.: Surgical Complications and Sequels of Typhoid Fever, 1898.
2. Garrod, A. E.: Allbutt's System of Medicine, 1908, III.
3. Sutherland, G. A.: Edinburgh Hospital Reports, 1895, p. 109.
4. Musgrave, W. E.: Philippine Jour. Sc., June, 1906, I, No. 5.

In dysentery the arthritis usually subsides within a week or so, and affects the larger joints most commonly, especially the knees, in which there may be synovial effusion sometimes of extreme degree. Generally no permanent damage results.

Typhoid arthritis is sometimes polyarticular, but more commonly monarticular and it especially attacks the hip joint, in which spontaneous dislocation is a very frequent result from serous distention of the capsule due to the subacute synovitis.

CLINICAL DATA INDICATING THAT CONTENTS OF THE LARGE INTESTINE MAY ACT AS JOINT IRRITANTS

Attention will be given in what follows mainly to obscure intestinal toxemias originating in mild processes that are associated only with ordinary non-pathogenic intestinal bacteria.

Vague connections between intestinal disorders and joints have been recognized by many clinicians in the temporary improvements occurring in the latter following treatment of digestive irregularities, but these observations have been too indefinite to permit of reasonable deductions, and dependence therefore has to be placed on fortunate combinations of intestinal and arthritic symptoms that allow of no doubts as to their interpretation. Such cases are, however, rather rare. The following instance of fecal impaction accompanied by joint complications is the most convincing that can be cited at the present time:

Patient.—Married man of 50 years, physician, suffering with multiple arthritis; severe symptoms of several months' duration, preceded by two years of slow development of stiffness; arthritis involved spine, jaws, hands, knees and ankles, especially, and to less extent the other points. Nearly complete disability was present and joints exhibited periarticular swellings and limitation of motion, with edema of skin around affected parts, of moderate degree. Psoriasis was a very interesting feature, having a most extensive distribution over scalp, trunk and extremities and of duration longer than the joint lesions.

Personal History.—Patient was a healthy man previous to present illness; no infections or other etiologic factors discovered to account for insidious onset of joint trouble; tonsils removed without effect on joints; no digestive symptoms except occasional slight abdominal pains at night; patient always a hearty eater.

Examination.—This showed fecal mass in the cecum and tenderness at umbilicus. Bowels were moving once or twice daily with the use of sodium phosphate. Physical examination was otherwise unimportant.

Treatment.—Intestinal lavage, with physiologic saline enemas daily.

Result.—Enormous accumulation of fecal material evacuated at end of eight days. The edema about the joints and psoriasis began to subside slowly within two or three weeks, and the arthritis and skin lesions both steadily improved for several months and terminated in complete recovery that has remained permanent. Patient has continued treatment, taking fermented milk and keeping bowels well evacuated with cathartics and enemas, and has been able to resume active practice and play golf for the past year.

It seems reasonable to suppose in this case that substances were absorbed from the large fecal accumulation adherent to the intestinal walls and that these produced joint and skin lesions, as complete subsidence of two such severe conditions in skin and joints simultaneously after removal of the fecal mass scarcely permits of any other interpretation.

Having acquired this definite conception, it becomes possible to support this idea of intestinal toxemia by additional observations which of themselves seem less convincing.

Colostomies performed for various rectal conditions have been reported by different surgeons[5] to be associated occasionally with the cure of an arthritis which happened to be present coincidentally with the rectal disorder. Interpretation seems to be that while the surgical malady was being cured by allowing the intestine to remain at rest, simultaneously its absorptive function was also thrown into disuse, with the result that the joints were improved.

I have had charge of a patient suffering with rectal ulceration for which a colostomy was performed. In this case the artificial opening allowed a little fecal matter to get into the lower part of the bowel occasionally, and the patient was in the habit of irrigating the colon through the cecal opening himself; moreover, he could readily tell when such washings were needed by pains that began in his joints, and these subsided each time after irrigation, within a few days.

Purgation as a cure for arthritis from intestinal toxemia has been frequently employed at sanatoriums, and the marked improvements that often are related are to be explained on the assumption that they also diminish absorption by clearing the bowel quickly and thoroughly, and by increasing peristalsis. There seems to be no doubt that such improvements occur or that symptoms generally recur after the treatment ceases and accumulation again takes place.

ORIGIN OF INTESTINAL TOXINS

In typhoid fever and bacillary dysentery, toxins presumably are derived from special micro-organisms producing those diseases, but in the class of cases under discussion there have been no pathogenic bacteria recognized in the stools.

Theoretically three possibilities exist. 1. Some specific organism that produces the toxic substance, which has not yet been discovered, is present in the stools. 2. Ordinary non-pathogenic bacteria develop excessively, and the products of their activities exert a mild irritating effect on joint tissues from being in excess in the blood, similarly as excessive quantities of uric acid derivatives cause trouble with joints, although uric acid is a normal product of metabolism. 3. Defective digestion produces abnormal chemical products independently of bacterial action, and not of gouty nature, that are the cause of arthritis.

NON-PATHOGENIC INTESTINAL BACTERIA IN THEIR RELATIONSHIP TO JOINTS, AND CONDITIONS THAT ACCOMPANY THE PRODUCTION OF JOINT LESIONS

Examinations of stools of arthritic patients show no constant characteristics or any peculiarities that are not observed in patients who do not have arthritis. No bacteria have been discovered that are peculiar to this condition alone, yet hidden in this confusing state of affairs lies the cause of certain types of joint disease, shown by cures following removal of fecal impactions.

The relationship between intestinal toxins and joint lesions must depend on the following series of variable conditions, namely: variable formation of toxins, variable absorption of them through the intestinal walls, variable unknown processes in their passage through the liver into the general circulation, and diverse resistances of joint tissues.

5. Cave, Edward John: A Discussion on the Chronic Diseases Included in the Terms "Chronic Rheumatism," "Osteo-Arthritis," and "Rheumatic Gout," Brit. Med. Jour., Oct. 12, 1901, p. 1040. Wallis, Frederick Charles: The Causes and Treatment of Non-Malignant Stricture of the Rectum, Brit. Med. Jour., Oct. 6, 1900.

Production of toxins fluctuates with the quantity of nitrogenous food and according to the abundance of bacteria, and it may be diminished by changing the character and quantity of diet, by improving digestion and absorption of food in the small intestine, thus leaving less for bacterial decomposition, or by introduction of micro-organisms, as lactic acid bacteria, which inhibit the growth of putrefactive bacteria. The quantity of toxins absorbed depends on the amount formed, the rate of peristalsis, and also on inherent individual differences in powers of absorption. Resistance of joint tissues must also be considered a variable factor, as variability in vital resistance of all living tissues is one of the recognized facts of biology.

EXAMINATIONS OF STOOLS OF ARTHRITIC PATIENTS

Examinations of stools have been made a sufficient number of times from twenty-five patients to form an opinion regarding the presence of unusual species of bacteria, especially spore-forming anaerobes, and to allow comparison with non-arthritic individuals. Some patients were selected because their joint condition seemed to be of intestinal origin and others were chosen because the intestinal tract was thought to be normal and to stand in no relation to the arthritis. Also a few stools were examined from patients who had no joint trouble.

Methods are given below and a summary of results simply outlined at this point.

1. Patients with arthritis who respond to intestinal treatment exhibit luxuriant growths of intestinal bacteria both of the predominant type of *Bacillus coli communis* and also of spore-forming anaerobic bacteria.

2. No new specific pathogenic micro-organisms have been discovered.

3. The very large majority of spore-forming anaerobes correspond to *Bacillus aerogenes capsulatus*.

4. Wide variations exist in numbers of fecal bacteria found in different individuals, also in the same individual at different times; therefore numbers of bacteria present in any selected specimen of stool have slight significance unless excessively large. MacNeal[6] has exhaustively studied fecal bacteria of healthy men and confirms this observation of fluctuation in numbers of fecal micro-organisms.

5. Scanty numbers of fecal bacteria frequently are found in persons with arthritis who respond to intestinal treatment owing to the fact that cultures were taken at a time when fluctuations were at their lowest limit, due to purgation, diet and other treatment.

6. Patients with arthritis of other origins, also non-arthritic individuals, may exhibit all the peculiarities observed in those with arthritis of intestinal etiology, except that excessive numbers of bacteria are less persistently observed.

CONCLUSIONS

1. Patients with arthritis who respond to intestinal treatment habitually eat a little more than their digestive tract is able to properly care for, and intestinal putrefaction occurs with them in consequence very frequently and excessively, yet subject to usual fluctuations.

2. Excessive amounts of bacterial products, derived from activities of ordinary intestinal bacteria, find their way into the blood and produce arthritis in those persons who have susceptible joints, just as excessive amounts of uric acid derivatives in the blood produce joint changes in gouty individuals.

3. The exact identity of bacterial products that produce arthritis is unknown; nor is it understood whether they are derived from many species of bacteria or from some special organism, like spore-forming anaerobic bacteria. The presence of the latter in abundant numbers, and the fact that some of them are known to produce acute poisons, makes their rôle a suspicious one.

Baldwin[7] has studied the products of intestinal putrefaction as they appear in the urine of patients suffering with rheumatoid arthritis, and her observations are very interesting. All but two of the twenty-one cases examined showed either an excess of aromatic sulphates or else the presence of indican. Considerable variation was noted; in some instances indican was entirely absent, while other products of putrefaction, aromatic sulphates, were in excess of normal. In other instances one of the putrefactive products, indol, skatol or phenol, might be found in excess, while their total amount was not unusually great.

Comment should be made on the etiology of the cases which she examined as rheumatoid arthritis, with the assumption that they were all of the same origin. No data are given by her to show that several types were not included, some of them originating from intestinal toxemias, and others, in which the intestinal condition was secondary, to metabolic or neurotic disturbances, but which showed intestinal putrefactions from the inactive life and sluggish peristalsis that most arthritic patients complain of sooner or later. Her results are in accord with the fluctuating conditions known to exist in the intestine and serve to emphasize the probability that severe types of arthritis are made worse, and perhaps perpetuated after original causes have ceased to act, by intestinal putrefactions that have established themselves while the patients have been hopelessly crippled.

4. Clinical data not given in this article on account of their incomplete state suggest another type of arthritis originating in the intestinal tract independently of bacteria and due to defective digestion. Salient features of this type are its occurrence in old age, and the existence simply of chronic dyspepsia in characteristic cases. The type of joint changes in such patients is distinctly different from those typically associated with intestinal bacterial toxemias. In the former pronounced hyperthropic overgrowths of bone occur, while in intestinal toxemias of bacterial origin the damage is restricted mainly to soft tissues or very slight atrophy of bony trabeculæ. Defective metabolic processes going on in worn-out cells of the intestinal mucosa may conceivably lead to formation of unusual substances which act on joints, similarly as visible defects like cancer are associated with a toxemia from defective metabolic activities of cancer cells. It is admitted, however, that this origin of arthritis cannot at present be satisfactorily proved.

APPLICATION OF THE THEORETICAL CONCEPTION TO CONDITIONS EXISTING IN THE GASTRO-INTESTINAL TRACT

Some of the facts to be reconciled by these ideas may be illustrated by the following groups of cases: patients with fecal impactions who have severe arthritis; patients with fecal impactions who have no arthritis; patients with dilatation of stomach and enteroptosis with and without arthritis; patients with no severe intestinal symptoms, yet who have joint complications.

A starting point for explanation may be taken from conditions existing in the joints. Blood circulating

6. MacNeal, W. J., Latzer, L. L. and Kerr, J. E.: Fecal Bacteria of Healthy Men, Jour. Infect. Dis., April 1, 1909, vi, No. 2.

7. Baldwin, Helen: Organic Acid in the Urine, Am. Jour. Med. Sc., 1904, new series, cxxviii, 1045.

through joints and containing irritating substances derived from the intestinal tract will or will not produce demonstrable lesions, according to the resistance of joint structures. In the majority of instances these are very resistant and withstand protracted, severe intestinal toxemias. The vital resistance of joint tissues also is constantly being exercised in other ways toward other bacterial toxins and metabolic substances of the blood, and in the large majority of all instances the joints are able to maintain their health in spite of adverse variable conditions.

It should be recalled that arthritis occurs as a complication of gonorrhea in only a very small percentage of cases, and is also associated with tuberculosis, pneumonia, scarlet fever, tonsillitis, typhoid fever, dysentery and other infections, always in very small percentage, too, of the total numbers of cases of these diseases.

When the severe toxemia of a pneumonia, scarlet fever, typhoid fever or dysentery subsides the arthritic symptoms subside also, if they have been present, as soon as the tissue cells are able to cope with and overcome the diminishing toxic influences of the blood. Likewise, when fecal impactions are removed and diminution in absorption of irritating substances from the intestine occurs, then there is also permanent subsidence of arthritic symptoms if they are present, because this extreme state is readily prevented again. Explanation of the observations enumerated, therefore, may be made as follows:

Patients with fecal impactions are absorbing large quantities of mild intestinal toxins that occasionally overcome fairly resistant joints, but in the majority of instances the tissues are able to resist even this excessive absorption.

Patients with dilatation of the stomach accompanied by putrefaction of gastric contents likewise are absorbing large quantities of putrefactive products, but joints are able to successfully resist in the majority of these instances, too. A few patients do succumb, however, and their arthritic condition may be helped by treatment of the stomach.

Patients with no severe intestinal disturbances must have particularly susceptible joint tissues in order to have arthritis as an accompaniment of such slight digestive defects, and very little can be accomplished for their cure.

DIAGNOSIS

Arthritis occurring with dysentery, typhoid fever or other acute conditions presents comparatively slight difficulties, but when caused by mild intestinal toxemias, histories related by patients suggest preliminary treatments, and diagnosis has to be made from the responses to these tests.

Obscurity of origin, therefore, is a prominent feature, and when no etiologic factors are discovered to account for the existing arthritis then daily irrigations of the colon with warm water are prescribed, together with some general tonic like elixir of iron, quinin, and strychnin phosphates, and after two or three weeks an idea may be obtained of the importance of the intestinal element. In favorable instances improvement takes place in the general condition of the patient, also in the skin and sclerotics of the eyes; the appetite is improved and joint pains begin to lessen. Further improvements as the result of more vigorous measures that will be described later make the diagnosis positive.

In some individuals, especially small, poorly developed women, the history of a slowly developing arthritis from no apparent cause, accompanied by a muddy, sallow complexion and lusterless eyes and loss of weight, permits a probable diagnosis immediately, but there are many other patients whose condition cannot be determined. Symptoms which are commonly associated with disorders of stomach and intestine frequently occur, but are too inconstant to have diagnostic value, the most striking peculiarities of this class being their insidiousness and absence of well-defined symptoms. The following list represents actual cases that have responded to intestinal treatment:

Case 1.—Appetite good; bowels moving regularly; slight pain at umbilicus at night; occasional periods of dizziness; no acute gastric or intestinal symptoms; fecal mass palpable in cecum.

Case 2.—Appetite good; bowels move two or three times daily; no gastric or intestinal symptoms; abdominal examination negative.

Case 3.—Poor digestion and continual craving for food; habitual constipation; no acute gastric or intestinal symptoms; abdominal examination negative.

Case 4.—Appetite moderate; bowels constipated; no gastric or intestinal symptoms; abdominal examination negative.

Case 5.—Appetite poor; bowels obstinately constipated; no gastric or abdominal symptoms; fecal masses palpable in colon.

Case 6.—Appetite moderate; bowels constipated; no gastric or abdominal symptoms; examination negative.

Case 7.—Capricious appetite, much fat pork eaten; bowels move once or twice daily; vomiting, severe abdominal pains, diarrhea; operation for gall-stones; complexion waxy, spleen enlarged; no fecal masses or abdominal tenderness.

Case 8.—Appetite moderate; bowels regular; no gastric or intestinal symptoms; abdominal examination negative.

Ether anesthesia conducted in the manner usually employed at surgical operations, but stopped as soon as muscular relaxation takes place, has different after-effects on patients suffering with different types of arthritis.

For example, the patient with fecal impaction cited above experienced a short rise of temperature from normal to 102 F., also a brief attack of abdominal pain that required morphin, and slight increase in periarticular swellings following etherization for twenty minutes; while on the other hand, there may be very striking diminution of severe articular pains and surprising restoration of motion temporarily in affected joints after anesthesia.

These differences may possibly have diagnostic value in severe types associated with great pain and reflex muscle spasm. Moreover, etherization in such patients is often advisable, as Dr. T. S. P. Strangeways has pointed out, in order to differentiate between pure muscular spasm and adhesions of synovial membranes.

The effect of ether is evidently on articular sensory nerves and indicates differences of their irritability; consequently, it may perhaps also show pathologic conditions of unstable equilibrium in them by their unusual response, and suggests an important nervous element in underlying causes for such cases as respond to ether stimulation. Too few observations have yet been made to allow conclusions, and only the less frequent types in which articular pains and reflex muscle spasm are severe exhibit differences sufficiently well to be positively identified. Mention is made of this phenomenon, because there have been a few instances in which it has presented an additional clue of use in determining the nature of the arthritic processes.

PROGNOSIS AND TREATMENT OF ARTHRITIS ORIGINATING IN INTESTINAL TOXEMIAS, UNASSOCIATED WITH SPECIFIC PATHOGENIC ORGANISMS

Unusual intestinal conditions like fecal impactions that may be remedied, also many cases of intestinal disorders that have remained unrecognized and therefore neglected, offer favorable prognosis for the cure of associated arthritic disease. On the other hand, chronic intestinal troubles which have proven resistant to careful treatment and that are associated with very weak joints present an unfavorable outlook. Prediction whether a given case is curable or not often depends on the response to the first few weeks of preliminary treatment, and frequently cannot be told otherwise. Favorable prognosis always depends on the possibility of permanently diminishing the toxic substances in the blood. Attention, therefore, is directed logically toward diminishing the formation and absorption of toxic substances in the intestine and increasing the resistance of joints.

METHODS OF DIMINISHING THE FORMATION AND ABSORPTION OF INTESTINAL TOXINS

These include modifications in diet, introduction of antagonistic micro-organisms, intestinal antiseptics, stimulating drugs, stomach and colon lavage, abdominal supportive apparatus to correct visceral displacements and to overcome stasis of intestinal contents, surgical operations, colostomies, appendicostomies and operations on the stomach.

Diets are modified to lessen the quantity and nitrogen content of the food; buttermilk by means of its lactic acid organisms inhibits the growth of putrefactive anaerobes in the intestinal tract; various intestinal antiseptics may act in a somewhat similar manner. Medicinal tonics tone up digestive and absorptive functions and indirectly lessen putrefaction by minimizing the food available for putrefactive micro-organisms. Purgatives clear away accumulations of food that are fermenting and giving rise to toxic substances. Stomach or colon lavage also washes away decomposing food products and diminishes the formation of irritating bodies. Abdominal supports applied to individuals with very flabby, pendulous abdomens help to restore normal conditions and healthy action of stomach and intestine, and also minimize putrefactive changes; appendicostomies have been tried in severe cases of arthritis in order to secure more thorough irrigation of the colon and thus prevent absorption of intestinal toxins.

The aim of all treatments is removal of accumulations of food and putrefactive bacteria already lodged in the gastro-intestinal tract and prevention of reaccumulations, and simple measures which patients may continue to carry out themselves offer the most chances for cure.

In ordinary cases it is well to begin with purgation and colon irrigation until the intestine is thoroughly cleared, then to continue this treatment sufficiently energetically to maintain the advantage gained.

It is also well to put the patient to bed during the first week or so, while clearing the intestinal tract, and simultaneously to cut down the diet in order to lessen bacterial action to a minimum. A tonic may advantageously be given at the same time. In favorable instances, after two or three weeks, the joint pains begin to lessen, mobility increases and periarticular swellings disappear very slowly during the several months that follow.

In many cases improvement goes on for a time, then ceases, and symptoms may even recur. The probable explanation is that treatment has diminished absorption of toxic substances sufficiently to ameliorate symptoms partially, yet not enough to allow joint tissues to regain their normal function entirely. In these individuals operations which remove the absorptive function of the large intestine altogether, as colostomies, probably would be followed by complete subsidence of symptoms; but as recurrence seems likely to take place after colostomy openings have been closed, these operations should be seldom undertaken, because they are not permanent, and the discomfort attending them may be even worse than the condition which they are intended to relieve. They may be justifiable in rare instances, after all other methods have failed, with the hope of gaining temporary relief from the toxemia and allowing the tissues to recuperate sufficiently to resist new conditions in the future. Appendicostomies do not abolish the absorptive function of the colon as colostomies do, and consequently possess little advantage, if any, over purgation and intestinal lavage by rectum; moreover, they may be a considerable inconvenience.

Putrefactive changes taking place in the contents of the stomach, due to gastric dilatation, pyloric stenosis, congenital defects, or other pathologic states, require special treatment, differing according to the nature of the pathologic changes. The reader must be referred for special surgical and medical methods to text-books of surgery and medicine, because the subject is too comprehensive for this article.

The problem of avoiding reinfection of the digestive tract after clearing it of bacteria and decomposing foods has to be thought of, as bacteria constantly are being introduced through the mouth; therefore the sources for reinfection should be considered.

Bacteria get into the digestive tract continually with the food, and prevention of the spread of infectious diseases is a problem that public health authorities are dealing with. Milk and water supplies are subjected to rigid chemical and bacteriologic examinations in order to maintain a certain standard of purity and it is not inconceivable that such examinations may be further extended to include cold-storage products of various kinds in the future if it is proved that putrefactive anaerobic bacteria have sufficiently important pathogenic properties. It is well recognized by milk dealers that milk may spoil, although refrigerated, without becoming sour. These putrefactive changes of spoiling are due to growth of anaerobic bacteria that develop at low temperatures in which other micro-organisms cannot flourish. Eggs, also, that are kept in cold storage occasionally spoil from anaerobic bacteria and molds on the shells growing through the pores.

Cold-storage meats and fish seem open to the same dangers, although no definite statements can be made because investigation of bacterial changes of refrigerated meats have not been extensively undertaken; but it seems possible that the elaborate system of cold storage which has developed of late years may occasionally be responsible for intestinal putrefactions, and that nitrogenous storage products may sometimes contribute flourishing growths of spore-forming bacteria that have developed in the interval during which the products have been kept. This seems to apply especially to meats that have been removed, exposed for sale, and then again returned to cold storage, as bacteria may get well started in development when meats are exposed for sale in a warm atmosphere. These organisms are capable also of resisting unusual degrees of heat, and therefore may find their way into the alimentary tract as spores that are capable of further development. Certain cases of chronic

arthritis may therefore rarely represent one of the special illustrations of this relationship between cold-storage methods and public health.

Bacteria, besides being taken with the food, also sometimes grow luxuriantly in the mouth cavity, and this fact must be given consideration when attempting to reduce intestinal putrefactions, and cases of pyorrhea alveolaris should receive treatment in order to diminish the numbers of anaerobic bacteria finding their way into the stomach.

METHODS OF IMPROVING THE DIGESTIVE FUNCTIONS OF THE GASTRO-INTESTINAL TRACT

These methods are well known to all physicians and are briefly outlined to show their application to special arthritic conditions discussed in this paper.

Normal secretory, absorptive and peristaltic functions of stomach and intestine may become deranged through accumulations of decomposing foods which exert a toxic influence; visceral saggings may sometimes result in harmful interference with blood-supply and nerve-supply of the organs; or dilatations may mechanically stretch and interfere with the function of the epithelial cells of the mucosa.

Digestive functions may be improved by treatment of each of these various pathologic states as they occur, but details of treatment for dilatations, muscular atonies, stenoses, adhesions, inflammations, displacements, ulcerations and malignant growths obviously cannot be given at length.

Mechanical stretchings and interference with blood-vessels and nerves due to relaxed abdominal walls should be treated with abdominal supports, as Goldthwait[8] recommends.

The behavior of epithelial cells of gastric and intestinal mucosa with regard to their secretory and absorptive functions depends largely on the chemical and nervous stimuli they receive, and maintenance of normal metabolic processes in them is of very great importance, as thereby bacterial decompositions are indirectly lessened and unusual substances due to defective metabolic processes are avoided. The lining epithelium is constantly being influenced through variable states of the blood, food, drugs and nervous impulses from the central nervous system; consequently foods and drugs, which may be changed at will, furnish an important means of regulating the health of these cells.

The most favorable conditions may be secured by the selection of a diet of suitable quality and quantity, low nitrogen content being one of the quality requisites; an amount that avoids accumulation of the unabsorbed excess indicating in a rough way the suitable quantity of food. Accumulations already present should be cleared away by means suggested previously. Dr. J. H. Kellogg has had success with many arthritic patients who exhibit intestinal toxemias by the use of a vegetarian diet of low nitrogen content. There seems to be no doubt as to the efficiency of this cure, but it is disagreeable for some persons and a limited mixed diet appears usually to be sufficient.

The effect of various drugs on digestion is too well known to require comment. The list includes preparations to increase secretion, lessen acidity, promote absorption, regulate evacuation, lessen movement, relax muscular spasm and inhibit bacterial action. Well-tried remedies like nux vomica, preparations of iron, sodium bicarbonate, pepsin, hydrochloric acid, calomel, saline cathartics and a few others fulfill most of the requirements.

The effect of mental depression from the gloomy outlook and chronicity of some cases has a very important influence on digestion of arthritic patients. This frequently is underestimated, but should be met with unusual optimism by the physician in order to overcome it. Maintenance of proper mental attitude of patients with chronic troubles is one of the most important and difficult problems of treatment. Patients who have responded partially to intestinal treatment and whose progress has become arrested should have occasional modifications made in their routine, as slight variations assist in maintaining greater activity of the intestinal mucosa and prevent a relapse into a chronic state again. By careful attention, and by means adapted to each individual, it seems possible to nurse the alimentary tract back to a normal state so that digestion by tissue cells is permanently improved and intestinal putrefaction permanently diminished, and the only essentials for treatment in most cases are a few simple remedies and sufficient consideration of each patient to accurately understand the existing state of affairs.

METHODS FOR RAISING RESISTANCE OF JOINT TISSUES

The only effective way known at present to increase joint resistance is to increase the individual's general health. Hygienic treatment advised for tuberculosis is especially well adapted to raise the resistance and increase the health of arthritic patients. There are local physical stimulants, as heat and cold, and electricity, that may be employed, but their administration frequently results in more harm than good from overstimulation of the tired-out tissues. The possibility of immunizing joints to bacterial and metabolic toxins has not yet been satisfactorily demonstrated.

Joints inflamed from intestinal irritants should be kept at rest during the active inflammatory period in plaster casts and afterward gently stimulated to increase the blood-supply locally after the intestinal tract has been cleared out and the patient's general condition has begun to improve. The blood may then be assumed to contain a diminished amount of toxin, and an increased supply of blood to the joints then becomes beneficial.

BACTERIOLOGIC METHODS

Results of examinations of stools must indicate conditions as they exist within the bowel, and not represent changes occurring subsequently; therefore the following precautions have been taken:

Stools were caught in sterilized tin cans and brought immediately to the laboratory, where they were kept at a low temperature and examined within a few hours.

For examination 0.5 gm. of fecal material was accurately weighed out, rubbed up in sterile normal salt solution, and a uniform suspension of precisely 50 c.c. obtained.

Plate cultures of litmus lactose agar, litmus lactose gelatin, and blood agar were inoculated with this 1/100 fecal suspension after thorough shaking and further dilution. The best plates were secured by 0.5 c.c. of 1 to 100,000 dilution and 1 c.c. of 1 to 1,000,000 dilution.

Spore-bearing anaerobic bacteria were determined by heating 10 c.c. of 1/100 fecal suspension in a capped tube in a water-bath for fifteen minutes at 80 C., after which 0.5 c.c. was plated with blood-agar, and 0.25 c.c. with plain agar, and 0.25 c.c. with a second blood-agar plate.

8. Goldthwait, J. E., and Brown, Lloyd T.: The Cause of Gastroptosis and Enteroptosis, with Their Possible Importance as a Causative Factor in the Rheumatoid Diseases, Boston Med. and Surg. Jour., May 26, 1910.

Litmus lactose gelatin plates were kept three days at room temperature, then examined and counted. Litmus-lactose-agar plates were incubated at 37 C. for twenty-four hours before examination. Blood-agar plates were kept three days at 37 C. under anaerobic conditions, secured by passing hydrogen through Novy jars containing the plate cultures, then extracting the last traces of oxygen with pyrogallic acid and sodium hydrate.

Examinations at the end of three days were made and especial attention paid to hemolytic powers of the developing colonies. Oval colonies surrounded by distinct hemolytic zones developing from spores in blood-agar corresponded morphologically and culturally with *B. aerogenes capsulatus* or *B. perfringens*. Subcultures were made from typical colonies in each stool and further study of these confirmed the first impression that the large majority were *B. aerogenes capsulatus*.

Another paper, purely bacteriologic in nature, dealing with all the varieties of spore-forming anaerobic bacteria that have been found, may be published later, and for this reason only such points are mentioned in this article as bear on the clinical aspects of the relationship between joints and gastro-intestinal disorders.

It should be stated in summarizing that in a considerable proportion of intestinal cases improvement or cure may be effected; that the number is increasing as our knowledge of conditions and skill in applying simple remedies becomes extended, and that insistence should be made on early treatment before destructive changes have gone on that are beyond repair.

In conclusion I wish to acknowledge my indebtedness for clinical material to Drs. E. G. Brackett, Joel E. Goldthwait, Robert B. Osgood and Charles F. Painter, who have generously contributed private patients, and permitted the use of the orthopedic clinics of the Massachusetts General Hospital and Carney Hospital; also to Dr. Theobald Smith for valuable suggestions concerning bacteriologic methods.

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AN ACCURATE FORMULA FOR USE IN THE MODIFICATION OF COW'S MILK IN THE ARTIFICIAL FEEDING OF INFANTS

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If the composition of milk from any source is definitely known, and known to be constant, a mathematically accurate formula may be devised by which artificial mixtures of any desired strength of fat, carbohydrates, and proteins may be compounded. The construction of such formulas is a somewhat long and tedious algebraic process, and when completed they are so complex that the compounding of milk mixtures by their use requires too much time and labor to be of service to the general practitioner.

With this fact in view, after having devised a formula based on 4 per cent. milk and 16 per cent. cream, I constructed a table of over 400 milk mixtures by ascertaining according to the formula, the amounts of milk, cream and milk-sugar required in compounding these mixtures, so that mixtures may be made up merely by reference to the table.

According to L. E. Holt[1] the composition of average herd milk is, fat 4 per cent., carbohydrates 4.50 per cent., proteins 3.50 per cent., etc., and the composition of what is known as 16 per cent. cream is, fat 16 per cent., carbohydrates 4.05 per cent., proteins 3.20 per cent., etc.

The formula based on milk and cream of this composition is calculated in the following manner:

Suppose a represent the per cent. of fat, b the per cent. of carbohydrates, and c the per cent. of proteins in any artificial mixture; that is, that which is commonly known as, for example, a 3-6-1 mixture (3 per cent. of fat, 6 per cent. of carbohydrates, and 1 per cent. of proteins) we term an a-b-c mixture. Now let x represent the per cent. of milk, y the per cent. of cream, and z the per cent. of milk-sugar necessary to compound such a mixture. The diluent will then be equal to $100-(x+y)$.

It is then obvious that

$$\frac{4x}{100}+\frac{16y}{100}=a \text{ or } x+4y=25a \quad (1)$$

$$\text{and } \frac{4.5x}{100}+\frac{4.05y}{100}+z=b \text{ or } 90x+81y+2{,}000z=2{,}000b \quad (2)$$

$$\text{also } \frac{3.5x}{100}+\frac{3.2y}{100}=c \text{ or } 35x+32y=1{,}000c \quad (3)$$

By subtracting Equation 1 multiplied by 8 ($8x+32y=200a$) from Equation 3 we have

$$27x=1{,}000c-200a \text{ or } x=\frac{1{,}000c-200a}{27}$$

By subtracting Equation 3 from Equation 1, multiplied by 35 ($35x+140y=875a$), we have

$$108y=875a-1{,}000c \text{ or } y=\frac{875a-1{,}000c}{108}$$

By substituting these values of x and y in Equation 2 we have

$$\frac{90\,(1{,}000c-200a)}{27}+\frac{81\,(875a-1{,}000c)}{108}+2{,}000z=2{,}000b$$

that is $40{,}000c-8{,}000a+7{,}875a-4{,}000c+24{,}000z=24{,}000b$

$$\text{or } z=\frac{a+192b-248c}{192}$$

We then have the values of x, y and z in terms of a, b and c; that is to say, we have the per cent. of milk, cream and milk-sugar necessary to make up an a-b-c mixture, and any values whatever (of fat, carbohydrate and protein percentages), such as 3, 6 and 1 may be substituted for a, b and c.

Our formula then is

$$\text{per cent. of milk}=\frac{1{,}000c-200a}{27} \quad (1)$$

$$\text{per cent. of cream}=\frac{875a-1{,}000c}{108} \quad (2)$$

$$\text{per cent. of milk-sugar}=\frac{a+192b-248c}{192} \quad (3)$$

To demonstrate the accuracy of the calculation in devising this formula, suppose we desire a 4-4.5-3.5 mixture, *i. e.*, a mixture containing 4 per cent. of fat, 4.5 per cent. of carbohydrates and 3.5 per cent. of proteins. It will be seen that this is cow's milk.

Substituting 3.5 for c and 4 for a in (1), we have

$$\frac{1{,}000\times3.5-200\times4}{27}=\frac{3{,}500.0-800}{27}=\frac{2{,}700}{27}=100$$

Substituting likewise in (2), we have

$$\frac{875\times4-1{,}000\times3.5}{108}=\frac{3{,}500-3{,}500.0}{108}=0$$

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Substituting these values in (3), and also 4.5 for *b*, we have

$$\frac{4+192\times4.5-248\times3.5}{192}=\frac{4+864.0-868.0}{192}=0$$

showing that, in compounding a 4-4.5-3.5 mixture, we take 100 parts milk, no cream, no sugar and no diluent.

Now suppose we desire a 16-4.05-3.2 mixture (cream). Substituting 3.2 for *c* and 16 for *a* in (1), we have

$$\frac{1,000\times3.2-200\times16}{27}=\frac{3,200.0-3,200}{27}=0$$

Substituting likewise in (2), we have

$$\frac{875\times16-1,000\times3.2}{108}=\frac{14,000-3,200.0}{108}=\frac{10,800}{108}=100$$

Substituting these values in (3), and also 4.05 for *b*, we have

$$\frac{16+192\times4.05-248\times3.2}{192}=\frac{16+777.60-793.6}{192}=0$$

showing that, in compounding a 16-4.05-3.2 mixture, we take 100 parts of cream, no milk, no sugar and no diluent.

In making a table of various mixtures from this formula, I have carried the calculations to a 0.1 per cent., *i. e.*, to three decimal places, which has shown results within 0.04 per cent. of perfect accuracy in all mixtures in which I have calculated the percentages of fat, carbohydrates and proteins from the amounts of milk, cream and sugar used in compounding such mixtures.

The following formula used in many hospitals, and I believe the most accurate one now in general use, is much less accurate than the preceding, especially in regard to the protein content:

$$C=\frac{Q\,(F-P)}{12} \qquad M=\frac{Q\times P}{4}-C$$

$$S=\frac{Q\,(CH-P)}{100} \qquad LW=\frac{Q}{10}$$

$$W=Q-(C+M+LW)$$

In this formula F represents the desired per cent. of fat, CH the desired per cent. of carbohydrates, P the desired per cent. of proteins, Q the quantity desired, C the amount of cream required, M milk required, LW lime water required and W water required.

Suppose we desire, say 24 ounces of a 3-6-1 mixture. By this formula we find that C = 4 ounces, M = 2 ounces and S = 1.2 ounces, i. e., the required amount of cream is 4 ounces, milk 2 ounces and milk-sugar 1.2 ounces. Now 4 ounces of cream contain 0.64 ounce of fat and 2 ounces of milk contain 0.08 ounce of fat, i. e., in a 24-ounce mixture by this formula there are 0.72 ounce of fat, exactly 3 per cent. (as desired) as seen by dividing 72 by 24.

Now 4 ounces of cream contain 0.162 ounce of carbohydrates and 2 ounces of milk contain 0.09 ounce of carbohydrates and we add 1.2 ounces of sugar, making in all 1.452 ounces of carbohydrates in the 24-ounce mixture or 6.05 per cent., as seen by dividing 145.2 by 24. Thus far the formula is quite accurate, the carbohydrates being inaccurate by only 0.05 of one per cent. But 4 ounces of cream contain 0.128 ounce of proteins, and 2 ounces of milk contain 0.07 ounce of proteins, i. e., 24 ounces contain 0.198 ounce of proteins or 0.825 per cent., as seen by dividing 19.8 by 24. Thus by this formula the proteins in this particular mixture are inaccurate by over 0.17 per cent.

By the table from the formula which I have described, 24 ounces of a 3-6-1 mixture require 3.5 ounces of milk, and 3.6 ounces of cream and 1.13 ounces of milk-sugar. Now 3.5 ounces of milk and 3.6 ounces of cream contain 0.716 ounce of fat, i. e., 2.98 per cent. of 24 ounces (inaccurate by but 0.02 per cent.) and 0.2377 ounce of proteins, i. e., 0.99+ per cent. of 24 ounces (within 0.01 per cent. of absolute accuracy), and these amounts of milk and cream plus the added sugar total in all 1.4333 ounces of carbohydrates in the 24 ounce mixture of 5.97+ per cent. (within 0.03 per cent.).

In calculating the amounts of the ingredients in 24 ounces of a 3.25-6-1.25 mixture by the old formula we arrive at an even more inaccurate result in regard to the proteins, for C = 4 ounces, M = 3.5 ounces and S = 1.14 ounces, and in 24 ounces, 4 ounces of cream and 3.5 ounces of milk give 3.25 per cent. fat (accurate) and 1.04 per cent. of proteins (0.21 per cent. out of the way), and these amounts of cream and milk with the added 1.14 ounces of milk-sugar give 6.08 per cent. of carbohydrates (0.08 per cent. off) practically a 3.25-6-1 mixture instead of a 3.25-6-1.25.

By our table 24 ounces of a 3.25-6-1.25 mixture require 5.328 ounces of milk, 3.528 ounces of cream and 1.056 ounces of milk-sugar, giving 3.24 per cent. of fat, 5.97 per cent. of carbohydrates and 1.24 per cent. of proteins.

The greatest inaccuracy encountered in the old formula, and in our table as well, is the last mixture in the table, viz., 5-7-3.50. By the old formula in a 24-ounce mixture we have 3 ounces of cream, 18 ounces of milk and 0.84 ounce of milk-sugar. These amounts in 24 ounces give 5 per cent. of fat (accurate), 7.38 per cent. of carbohydrates (0.38 per cent. off) and 3.02 per cent. of proteins (0.48 off), practically a 5-7-3 mixture instead of a 5-7-3.50 mixture as far as the proteins are concerned.

By our table we find in 24 ounces of a 5-7-3.50 mixture we require of milk 22.08 ounces, cream 1.92 ounces and milk-sugar 0.6 ounce. These amounts give of fat 4.96 per cent. (0.04 off), carbohydrates 6.96 per cent. (0.04 off) and proteins 3.47 per cent. (but 0.03 off).

Had the tables been carried out to one more decimal place all calculations would have been within 0.01 per cent. of absolute accuracy.

It will be seen, therefore, that the old formula is quite inaccurate in regard to the protein content which, having to do with the curd, should be the most accurate, especially when we are dealing with infants having digestive disturbances.

In speaking of proteins Holt[1] says:

> The modification of proteids is the most important change necessary in cow's milk, for it is the proteids which give most of the trouble to the infant's digestion. . . It is not enough to reduce the proteids to the average present in woman's milk, *i. e.*, 1.5 per cent. During the early months the percentage should be less than this. . . I believe the secret of success in feeding cow's milk is to begin with the proteids so low as not to disturb the infant's digestion, and then slowly, but steadily, raise the quantity. . . Except to start with too high proteids, no more common mistake is made than to continue long with too low proteids. Anemia, malnutrition, and, I believe, not infrequently scurvy, are seen as a consequence of this practice. The gradual increase is therefore just as important as the low beginning.

In the table I have not considered diluents, for it is evident that after ascertaining the amounts of milk, cream and milk-sugar necessary for a certain amount of a given mixture, a sufficient quantity of water or other

diluent is added to the milk, cream and sugar to make the required amount. If lime-water is to be used, 5 or 10 per cent., as desired, is added before adding the diluent.

If barley water or other cereal water is used, as recommended by many to assist in breaking up the curd, it, too, may be added in the quantity desired before adding the water. Since barley water contains of fat 0.05 per cent., carbohydrates 1.63 per cent. and proteins 0.09 per cent., (Holt), when it alone is used as the diluent, a reduction should be made in the carbohydrate per cent. of the formula; e. g., if a 3-6-1 mixture is desired the ingredients of a 3-5-1 mixture should be used, the percentage of the carbohydrates being subsequently raised by the addition of the barley water. The same point must be observed when adding the various dextrinizing powders to the milk mixtures. The dextrinizing process raises the sugar content about 2 per cent., so if a 3-6-1 mixture were desired, the ingredients of a 3-4-1 mixture are dextrinized.

In the modification of cow's milk by any formula it is essential to know the composition of the milk and cream used and while it is true that average herd milk is usually 4 per cent. and gravity cream is usually 16 per cent. it is advisable to make the simple fat estimations with the Babcock centrifuge from time to time, for if the fat percentage is correct, the amounts of the other ingredients will also be correct.

Holt[1] recommends the accompanying schedule for an average healthy infant, showing percentages of fat, sugar, and proteins, and the quantities.

It will be seen by this schedule how important it is to have great accuracy in respect to the proteins.

A few of the mixtures from the table calculated by the formula which I have described appear below.[2] If the per cent. or parts per hundred of milk, cream and milk sugar necessary to make up the mixtures were actually given in the table, the decimal point would be two spaces to the right of what it now is.

As the table is, the amounts of milk, cream and milk sugar in a certain amount of any mixture are found by multiplying that amount by the figures opposite the mixture in the table, for example, suppose we desire 36 ounces of a 3-6-1 mixture. We find that the three numbers in the table opposite 3.00-6.00-1.00 are 0.148, 0.150 and 0.047. By multiplying 36 by 0.148 we have the amount of milk, multiplying by 0.15 we have the amount of cream and by 0.047 the amount of milk sugar in ounces. Or suppose we desire 850 gm. of a 3-6-1 mixture. By multiplying 850 by 0.148 we have the amount of milk, by 0.15 the amount of cream and by 0.047 the amount of milk-sugar in grams.

One-half the quantity of cane-sugar may, of course, be used in the place of milk-sugar.

1705 North Front Street.

SCHEDULE FOR AN AVERAGE HEALTHY INFANT, SHOWING PERCENTAGES OF FAT, SUGAR AND PROTEIDS, AND THE QUANTITIES

Age.	Percentages of Fat.	Sugar.	Proteids.	Quantity for one feeding. Ounces.	Grams.	No. feedings in 24 hours.	Interval by day.
Premature infants	1.00	4.00	0.25	¼ - ½	7-22	12-13	1-1½ hours
First to fourth day	1.00	5.00	0.30	1 - 1½	30-45	6-10	2-4 "
Fifth to seventh day	1.50	5.00	0.50	1 - 2	30-60	10	2 "
Second week	2.00	6.00	0.60	2 - 2½	60-75	10	2 "
Third week	2.50	6.00	0.80	2 - 3½	60-110	10	2 "
Fourth to eighth week	3.00	6.00	1.00	2½ - 4	75-123	9	2½ "
Third month	3.00	6.00	1.25	3 - 5	90-155	8	2½ "
Fourth month	3.50	7.00	1.50	3½ - 5½	110-170	7	3 "
Fifth month	3.50	7.00	1.75	4 - 6	125-185	7	3 "
Sixth to tenth month	4.00	7.00	2.00	5 - 8	155-250	6	3 "
Eleventh month	4.00	5.00	2.50	6 - 9	185-280	5	4 "
Twelfth month	4.00	5.00	3.00	7 - 9	220-280	5	4 "
Thirteenth month	4.00	4.50	3.50	7 -10	220-310	5	4 "

Holt recommends the accompanying schedule for an average healthy infant, showing percentages of fat, sugar, and proteins, and the quantities.

2. The following list of mixtures has been selected from a very elaborate table including over 400 mixtures, which I have calculated by the formula described above, and is given here to convey some idea of the character of the complete table which will be published with the reprint of this article:

Mixture. Fat.	Carbohydrate.	Protein.	Milk.	Cream.	Sugar.
0.50	4.00	0.25	.055	.017	.036
0.75	4.00	0.25	.037	.037	.036
1.00	4.00	0.25	.018	.057	.036
1.00	5.00	0.30	.037	.053	.046
1.50	5.00	0.50	.074	.075	.043
2.00	6.00	0.60	.074	.107	.052
2.50	6.00	0.80	.111	.129	.049
3.00	6.00	1.00	.148	.150	.047
3.00	6.00	1.25	.240	.127	.044
3.25	6.00	1.25	.203	.167	.044
3.50	6.00	1.25	.222	.147	.044
3.50	7.00	1.50	.296	.144	.051
3.50	7.00	1.75	.388	.126	.047
4.00	7.00	2.00	.444	.139	.044
4.00	5.00	2.50	.630	.092	.018
4.00	5.00	3.00	.815	.046	.011
4.00	4.50	3.50	1.000	.000	.000
5.00	7.00	3.50	.920	.080	.025

THE RADICAL CURE OF MALARIA; ITS IMPORTANCE AND HOW IT IS ATTAINED *

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Science has almost solved the problem of malaria in all its phases; but, despite our almost complete knowledge of the life-history of the malarial parasite both in man and in the mosquito, despite our familiarity with all the manifestations of the disease, and despite the fact that every physician knows that it is easily prevented and ordinarily yields to treatment, malaria, though decreasing in severity and frequency, continues as one of the most prevalent diseases in many localities of the United States, in some places its mortality rate amounting to 25 per cent. of the total number of deaths.[1]

According to the statistics obtained from the last census, the number of deaths from malaria in the United States in the year 1900 was 14,909. The following states showed the greatest mortality: Arkansas leading with 1,730; then Texas, with 1,331; Alabama, 1,055; Louisiana, 1,030; Georgia, 1,011; Tennessee, 987; Missouri, 965; Mississippi, 938; South Carolina, 749; North Carolina, 527; Illinois, 497; Virginia, 409; Indiana, 340; and New York, 308.[2] These statistics are of question-

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Sutherland, H. L.: Gulf States Jour. Med. and Surg. and Jour. Southern Med. Assn., February, 1910.
2. Twelfth Census of the United States, Vital Statistics, 1900, I and II.

able value, since they are largely derived from information obtained by the census enumerators in the rural districts, and no doubt many deaths reported from malaria were due to typhoid fever and other diseases. It should be remembered, however, that malaria as a complication of pregnancy and of a number of diseases, and as a cause of arteriosclerosis and nephritis, is responsible for many deaths which are ascribed to other causes. It would therefore seem that these statistics do not overestimate the number of lives sacrificed to this easily preventable and curable disease.

The simple statement of the number of deaths from malaria does not half tell the story of its ravages. Its expense to the people of the United States is appalling. It is estimated that malaria costs our nation from $50,000,000 to $100,000,000 annually.[3] Dr. Albert Woldert, of Tyler, Texas, after a careful study of the mortality and morbidity rates of Texas, estimates that malaria costs that state more than $5,000,000 per year.[4] Assuming that the United States census mortality rates are as correct for Missouri as for Texas, and that the morbidity rates are in the same ratio, malaria taxes the state of Missouri more than $3,000,000 annually.

MALARIA UNNECESSARY

The unnecessary burden of malaria can be relieved simply by radically curing those suffering from the disease, but, strange to relate, this most important point has been most neglected. Malaria can be entirely eradicated, in one year, in any community, without regard to the number of anophelines present, if every person having the disease will take quinin long enough to be completely cured.[5] It is man, and not the mosquito, that carries malaria through the winter, thus perpetuating the disease. Therefore, the most important measure in the crusade against malaria is its radical cure, and it is this phase of the subject that I shall discuss.

The average physician does not regard malaria as a serious disease. He relieves the acute symptoms in a few days and when a patient dies of malaria he feels that the patient has neglected himself. It is in the most malarial regions that the disease is most lightly regarded. We should emphasize the seriousness of the disease and the importance of its radical cure.

The complications of malaria which result from our failure to cure our patients are responsible for more deaths than the acute and pernicious forms. The manifestations of malaria, like those of syphilis, are protean, and no organ in the body is exempt from its ravages. Its most marked effect is seen on the renal organs[6] and the vascular system.[7] As a consequence, in malarial regions, the general death-rate is high and the mortality from nephritis and the various forms of paralysis is inordinately increased.

While there is certainly no relationship between malaria and syphilis, and the etiology, histology and pathology of the two diseases are widely and essentially different, yet many of the clinical manifestations are analogous. I realize that it is an "odious comparison," but it is made to emphasize the importance of the prolonged treatment of malaria.

Malaria and syphilis are general or systemic diseases, the organisms and their toxins circulating in the blood; both are inoculable; they have a definite period of incubation; in the secondary stage of syphilis there may be a fever of a remittent type (I saw a case of syphilis in the secondary stage, with daily rise of fever to 103 to 105 F., in which a clinical diagnosis of typhoid or malaria was made, but the laboratory proved it to be syphilis); there may be skin manifestations in malaria;[8] the tendency to chronicity is marked in both, as well as the proneness to involvement of many different organs; there may be prolonged periods of latency in malaria as in syphilis; no two diseases produce more nearly similar or more serious effects on the vascular system and renal organs; malaria is sometimes a cause of ulcerative keratitis,[9] optic neuritis, the acute psychoses,[10] sclerosis of the cord,[11] and even progressive paralysis;[12] in both diseases we have drugs which are almost specific in their action, but in order to get the best results treatment in both diseases must be begun early and continued for a long period.

Relapses, which result directly from our failure to cure our patients, may occur as recrudescences of the fever soon after acute symptoms, as exacerbations during the chronic course of the disease, or as distinct attacks during latency. Reinfections are usually relapses or recurrences.

Celli[13] regards a relapse in malaria as the recurrence of symptoms at any time within one year from July 1. Reinfections occur after one year. Undoubtedly relapses have been observed several years after infection, and reinfections may occur in less than a year, but Celli's rule is a safe one to follow. If we adopt this rule and keep records of our cases we shall find how few of our malarial patients we radically cure.

The world owes a debt of gratitude to Manson for his self-sacrificing work in studying malaria, and he is rightly regarded as one of our greatest authorities on the disease; yet even he did not cure the disease in himself when first infected. He allowed himself to be inoculated by infected anophelines on Sept. 10, 1900, and had a relapse on May 30, 1901.[14] Authentic cases of relapse after three years of latency have been reported.[15]

There would be but little chronic malaria if the acute cases were cured, but there are to-day probably two or three million persons in the United States who are harboring malarial parasites. Headaches, neuralgias, neuritis,[16] gastric disturbances and acute diarrhea are among the most frequent symptoms of the chronic or "masked" forms. Indeed, malaria may simulate almost any disease. Craig[16] reported fourteen cases of malaria which had been diagnosed as pulmonary tuberculosis.

TREATMENT

All authorities agree that quinin is almost a specific in malaria, when treatment is begun early and continued long enough to eradicate the parasite from the system completely, though there are differences of opinion as to the time of administration, the dosage, and duration of treatment.

3. Harris, Seale: Prevention of Malaria, THE JOURNAL A. M. A., Oct. 9, 1909, p. 1162.
4. Woldert, A.: Malarial Fever, Its Expense to the People of Texas, Trans. Med. Assn. Texas, 1904, p. 37.
5. Koch: Ztschr. f. Hyg., May 22, 1903.
6. Mocore, J. F.: Nephritis in Malaria, Am. Med., Dec. 28, 1901.
7. Marchiafava and Bignami: Twentieth Century Practice of Medicine, William Wood & Company, New York, 1900.
8. Reissman: Am. Med., March 22, 1902.
9. Ellett, E. C.: Ophth. Rec., March, 1899.
10. Bondurant, E. D.: Unreported Cases, Mobile, Ala.
11. Spiller: Am. Jour. Med. Sc., December, 1900.
12. Marandon de Montel: Rev. de méd., Nov. 10, 1900.
13. Celli: La malaria secondo le nuovo ricerche, Rome.
14. Manson: Brit. Med. Jour., July 13, 1901.
15. Ziemann: Mense's Handbuch der Tropen-Krankheiten, Leipzig, 1906.
16. Craig: Med. Rec., New York, Feb. 15, 1902.

Given a patient in a hospital where his symptoms can be watched, and with competent microscopists who can make repeated daily examinations of the blood, the rule "no parasites, no quinin" is best; but, practically speaking, nine-tenths of the physicians, in the rural districts where malaria abounds, have not microscopes, or the time to make blood examinations; therefore the diagnosis must be made from the symptoms and quinin administered at once. In malarial districts it is a good rule, when in doubt, to give quinin and watch for symptoms of other diseases. Quinin does but little harm in any disease, and it may do a great deal of good in eliminating malaria, which may complicate and make more serious any other disease.

The microscope is not always a criterion as to chronic malaria, because undoubtedly the disease does exist without the presence of parasites in the peripheral circulation. Now, however, that we have, in most states, laboratories connected with our state boards of health, where examination of blood is made free, and many private laboratories, where specimens may be examined for a small fee, the physician who is not equipped with a microscope should carry a few slides at all times and get a specimen of blood from cases of suspected malaria immediately before beginning the administration of quinin. He can get a report in two or three days, by telegram in twenty-four hours, if the symptoms are urgent. The few doses of quinin given before the report is received cannot injure the patient, and if the parasites are present the drug should be continued until a cure is effected.

There are differences of opinion as to the most favorable time of the day to administer the quinin. Torti's, also called the Roman, method of giving one large dose, 15 or 20 grains, several hours before the expected paroxysm, based on the theory that the best effect of the quinin is obtained during sporulation, when the youngest forms are free in the blood-stream, has many followers in the South. Some of the older physicians still follow Sydenham's method of giving one or more large doses during the remission or intermission of the fever, when the drug is less apt to produce nausea or other discomfort. In my opinion the best method, that employed by Gorgas, Deaderick,[17] Craig,[18] Rogers[19] and other authorities, and the method which I have employed for fifteen years, is to keep the patient continuously under the influence of quinin, by giving him small doses every four hours, both day and night, with perhaps an extra dose about four hours before the expected paroxysm.

In the tertian and quartan forms 3 or 4 grains every four hours is sufficient, but in the more resistant estivo-autumnal variety 5 grains every four hours will be required. This dosage should be kept up for three or four days after the fever has subsided; then half the quantity should be given for two weeks. I do not believe that there is ever any occasion for giving more than 30 grains of quinin a day, and the very large doses are regarded by some authorities as positively dangerous.

In the acute and severe estivo-autumnal fevers the quinin may have to be kept up in maximum doses (30 grains daily) for several weeks, because the crescents, or gametes, are very resistant to quinin. In 1904 I reported a case of a negro girl, aged 14, who had crescents in her blood after the administration of 4 grains of quinin, in solution, every four hours for twelve days.[20] Darling, of the Canal Zone, in the Section on Practice of Medicine last year reported a number of cases in which gametes remained in the blood from two weeks to twenty-five days in spite of the daily administration of 30 grains of quinin.[21] Craig has also made extensive studies of the gametes in the peripheral circulation for varying periods of time after the use of quinin.[22]

In the acute cases of all types of malaria it is important for the patient to remain in bed for several days, because undoubtedly the best effect is obtained from quinin while the patient is at rest.

How long should the quinin be continued to attain a radical cure? Deaderick[17] says: "A few days' treatment with quinin no more cures malaria than does a few weeks' rubbing with mercury cure syphilis." He continues the quinin in 15-grain doses on two successive days of each week for two or three months. Craig, Rogers and other well-known authors also advise a modification of Koch's method.

In Italy small daily doses (6 grains) are given for three months after the acute symptoms have subsided, just as it is given to entire communities for the prophylaxis of the disease.[23] No doubt the prophylactic doses effect cures in many chronic cases, since in some localities the disease has been almost entirely eradicated and in five years the Italian death-rate from malaria has been reduced three-fifths (Thayer).

Ross[24] says: "To extirpate the parasite in a patient demands four months' assiduous cinchonization," and I believe that this is the safest rule to follow.

Thayer advises the small daily dose (6 grains) rather than the large intermittent doses. My experience has been that the small daily doses (3 grains night and morning) are efficient and are better borne than the large doses repeated at intervals of several days. I have also found that the memory test of giving quinin on certain days of the week or month is too severe for malarial patients, and they frequently give it up in disgust, while by taking it two or three times a day they form the quinin habit and will keep up the drug for even longer periods than is desired.

PROPHYLAXIS

It is not my intention to suggest any less vigilance in destroying anopheles mosquitoes and their breeding-places, and I would urge that those measures be employed to the fullest extent possible. I do maintain, however, that the most important and the most practical measure, at this time, in the crusade against malaria, is the radical cure of those harboring the parasites, because every patient cured means one less focus of infection. We should remember that there are malaria carriers as well as typhoid carriers, and that one is as dangerous to the community as the other. We should not forget that the patient with the parasites of malaria in his blood may infect mosquitoes and transmit the disease to others, just as in yellow fever, and that malaria may be as serious a disease as yellow fever.

17. Deaderick: A Practical Study of Malaria, W. B. Saunders Co., 1909, p. 366.
18. Craig: The Malarial Fevers, William Wood & Company, 1909, p. 377.
19. Leonard, Rogers: Fevers in the Tropics, Oxford University Press, 1909, p. 234.
20. Harris, Seale: Therap. Gaz., Jan. 15, 1904.
21. Darling: Tr. Section on Pract. Med. A. M. A., 1909.
22. Craig, Charles F.: The Sexual Forms of the Malarial Plasmodia Occurring in the Blood of Man, Arch. Int. Med., April 15, 1910, p. 325.
23. Thayer: The Prophylaxis of Malaria, Jour. Southern Med. Assn., November, 1909.
24. Ross: Allbutt's System of Medicine, p. 285.

I believe that we should at once institute a campaign against malaria. It offers the most brilliant results of any of the public health problems now confronting us.[25] A campaign of education should be begun with the medical profession, because physicians as a class, and particularly those residing in malarial regions, do not appreciate the seriousness of malaria, or the ease with which it may be eradicated. The public should be educated by means of popular addresses and literature on the subject should be placed in the hands of every one residing in malarial districts. Malaria, being both infectious and contagious, should be classed as among the reportable diseases, and the state and county boards of health should lead in the fight. Municipalities, counties and states should be called on to furnish money to purchase quinin to cure the indigent sufferers from malaria and to destroy the anophelines and their breeding-places. Philanthropists should be urged to aid in this fight against one of the greatest enemies to mankind. Money spent in eradicating malaria will yield greater returns than any other philanthropy.

It is no idle dream to hope that the blot of malaria may be erased from the fair name of our Southland and from the Mississippi and Missouri valleys, where the disease is most prevalent. Our government has given us an example of what may be accomplished even in the tropics. Gorgas,[26] with the resources of our great country to aid him, when he applied the knowledge of the mosquito transmission of disease and eradicated yellow fever and malaria from Havana and the Canal Zone, made conquests which should be regarded as among the greatest in the history of the world, victories that mean more for the welfare of nations than have ever been achieved in war.

ABSTRACT OF DISCUSSION

DR. CHARLES MACLELLAN, Chicago: In my opinion the theory of the anopheles being the only carrier of malaria is wrong; malaria is sometimes found in northern latitudes where there are no anopheles. I remember, while in the Orkney Islands, being called to see a sick man, suffering from a severe attack of malaria, and in that region mosquitoes are unknown. Of course the gnat, of the same genus, exists in the British Isles. A second case in a man who had never been off the island came to my knowledge. Of course, we know that the anopheles is the great carrier of malaria, but there must be a first cause in the mosquito region.

With regard to the method of treatment, the administration of quinin in capsule or powder, is not an efficient manner of getting at the disease for its eradication. I believe the best method of administering this agent is in a solution of sulphuric acid. I have in mind one patient who gave a history of malaria, having been ill over a week and who had taken from 6 to 10 grains of quinin in capsule 3 times a day, without result; on giving him 2 grains of quinin 3 times a day, of the solution just mentioned, he escaped the chill on the second day and it did not return.

DR. ARNOLD TRAUBITZ, Neelysville, Mo.: I live in a district where every patient who goes to a physician's office is supposed to have malaria, and, having treated many of them with success, I cannot agree entirely with the method of treatment just outlined. Giving quinin 3 times a day for 3, 4 or 5 months is wrong; the patients cannot stand this treatment because of the resulting gastric disturbances. My method of treatment of the malaria that shows itself every other day, or every third day, consists in giving 4 or 5 hours before the expected attack, in one dose, from 25 to 30 grains of quinin; I give this about 4 or 5 hours before the chill is expected. Even with such a dosage, often I do not get the results I expected. I have given as much as 60 grains at one time. I find then that the patient always misses the next chill. It should be remembered, however, that the chill cannot be broken on the same day that the quinin is administered. Some patients cannot stand quinin every 4 hours. The main thing in the treatment of this disease is elimination; the stomach must be in proper condition to eliminate and cause a proper action of the gall-bladder; otherwise patients must be kept on quinin indefinitely, a procedure which they cannot stand. The long-continued use of quinin is unnecessary. In treating malaria, the digestive system should at first be placed in a receptive condition for the specific; after the administration of the quinin the annihilated bacteria should be excreted from the system.

DR. W. E. CHAPMAN, Sheboygan, Mich.: In 1902, I served as contract surgeon in the Philippines, and was called to treat many cases of malaria. In one very stubborn case, running over a period of several weeks, I kept increasing the dose in capsules until 70 grains were taken daily, vacillating in my diagnosis between malaria and typhoid fever, as the quinin did not influence the fever, and at last being assured of my diagnosis, I dissolved 150 grains of sulphate of quinin in a weak solution of hydrochloric acid, and gave it to the patient in 4½ hours. The next morning the man was free from fever; he had a beautiful eruption and was very deaf, but for the following 3 months, while he was under my care, he had no more chills or fever.

DR. I. J. WOLF, Kansas City, Mo.: One thing to remember, and one that Dr. Harris laid stress on, was that malaria may assume the picture of almost any organic disease we know or can name. I remember one case of intermittent pneumonia which was due to the malarial parasite. I have in mind also another case in which the malarial parasite was responsible for an acute attack of enterocolitis in a baby during the summer months. The question at first arose: Was the trouble due to a faulty diet? I had just read an article on malaria in children and I suspected that something of this nature was the trouble. An examination of the blood showed that it was swarming with malarial parasites. The proper administration of quinin brought an end to this attack of enterocolitis. I do not believe that the treatment of malaria differs in any way from the treatment of any other disease. One should never have a stereotyped method of treatment of this, or any other, disease. One physician spoke of giving enormous doses of quinin, while another referred to the giving of small doses. Whether the dose of quinin should be large or small depends on the patient who is to receive the remedy. It is very important that the question of the total eradication of the disease should be borne in mind, as well as the immediate cure. One should not be satisfied with the production of the latent stage—but should be satisfied only with cure. Thousands of dollars have been spent on the eradication of the mosquito; if a fractional part of this money had been spent on the cure of the patient much good could have been attained. Without a malarial patient, the mosquito could not be a conveyer of this disease.

DR. VERNON BLYTHE, Paducah, Ky.: One thing that has not been sufficiently discussed is the difficulty of diagnosis of malaria from certain other fevers, especially typhoid. I am of the opinion that the giving of quinin in typhoid, which is done so much, does harm. I think that when a definite quantity of quinin has been given to a patient suspected of having malaria, and in those cases in which there is a question in diagnosis between malaria and typhoid, and when the quinin has had little if any effect on the temperature, the amount should be cut down to the minimum. The use of quinin in typhoid I believe to be distinctly harmful, especially to the circulatory and nervous systems. This drug has little effect on the temperature of typhoid, and I wish to enter a protest against its use in treatment of this disease.

DR. S. P. CHILD, Kansas City: As Dr. Harris has stated, there is great confusion at times and great difficulty in making a positive diagnosis between malaria and typhoid because

25. Harris, Seale: Some Problems in Medicine which Affect the Prosperity of the South, Jour. Southern Med. Assn., April, 1909.

26. Gorgas, W. C.: Malaria in the Tropics, THE JOURNAL A. M. A., May 12, 1906, p. 1416; Ann. Rep. Dept. of Sanitation, Isthmian Canal Commission, 1908, Government Printing Office, Washington.

of the absence of findings in the peripheral circulation. Physicians in Kansas City get many cases of malaria from Missouri towns and elsewhere; these places have many mosquitoes; a large number of cases appear in children and these have proved to be mainly of the estivo-autumnal type. Some cases, in which the frequent examination of the blood has shown the malarial parasites, have previously been diagnosed as pernicious anemia. In a period of six months at the Mercy Hospital in Kansas City, a hospital for children, we have had 7 cases of malaria, diagnosed by the blood findings, with one death. There was one case of typhoid fever during this period. Among these 7 cases there were 3 of the estivo-autumnal type, and the blood findings were suggestive of pernicious anemia. It was found that small and repeated doses of quinin by mouth would not cause a destruction of the organisms; therefore, we resorted to hypodermic medication of a combination of urea and quinin hydrochlorate; in every instance, as was shown by the result, we were justified in resorting to regular and systematic hypodermic medication. Only in 2 instances were large doses required and then we gave up to 12 grains every 2 hours hypodermically, in the gluteal muscles. In no case did we produce true cinchonism. These patients should be watched for several months before it is announced that a positive cure has been obtained.

DR. C. C. BASS, New Orleans: In my section of the country we see malaria every month and every year; the disease there appears in two varieties. I believe that there is an impression among almost all the physicians practicing in that section of the country, that of all the specifics in medicine, one that is as nearly a specific as any is quinin in treatment of malaria. A second impression that prevails is that in every patient who has malaria to such an extent as to give symptoms the plasmodium can be demonstrated in the blood by the use of the microscope.

DR. JOSEPH H. PRATT, Boston: Many of the conditions accompanying malarial infection should not be confused with the infection itself. Various diseases of the nervous system are frequently attributed to malaria on insufficient evidence. I recently saw a typical case of migraine in a patient from Illinois who had been treated for years for chronic malaria. A physician whom she consulted in Boston concurred in the diagnosis and on examination of her blood reported that it was "swarming with parasites." This patient, now 30 years of age, has not had chills or fever since childhood. When I examined her she was not anemic and the spleen could not be felt. There were no malarial parasites in the blood. Certainly a medical man must be thoroughly imbued with the false idea that all sorts of nervous disturbances may be the manifestations of malarial infection to regard for a period of ten years a case of migraine as one of malaria in a patient who did not present a single symptom that was characteristic of the latter disease. It is a common error for the inexperienced man to mistake malarial parasites for blood platelets in stained specimens. There is no doubt, that even at present, many physicians in all parts of the country mistake typhoid, tuberculosis, and septic conditions for malaria. Many base their diagnosis of malaria solely on the presence of chills and fever. I remember a striking case in which the error was not discovered until revealed by autopsy. The chart was typical of malarial fever. The paroxysms, consisting of chills, fever, and sweating recurred regularly. Large doses of quinin had been given and although the fever did not yield, the physician in charge held to his diagnosis of malaria. Autopsy showed a purulent thrombus which filled the portal vein. Such experiences as these teach two lessons. 1. We should awake to the truth, so clearly stated by Osler, Craig and others, that a fever which does not yield to small, repeated doses of quinin properly administered with the patient confined to his bed, is not malaria. 2. Blood examinations are of no value unless made by a competent person.

DR. G. C. SMITH, Boston: The idea of a man from Boston speaking on the subject of malaria seems strange, especially as there is so little of the disease in Massachusetts. I know how prevalent the disease is in the middle west and south, but we in the New England states do encounter an occasional case. We have some cases imported from the west and south, and some patients have appeared here who reported that they were cured of malaria. It has been my fortune to see many such cases in consultation. I can corroborate the remarks of Dr. Pratt. During the past year I distinctly remember 3 cases of pyelitis of chronic form which had been diagnosed as malaria, and 2 patients with suppurative disease of the gall-bladder which had been treated with quinin, under which the chills and fever had subsided. The patients were supposed to be cured of the malaria. The attacks came and went. There was a repetition of the administration of quinin and always with the same results—temporary disappearance of the chills and fever. Of course the patients did not improve because of the quinin they took. I believe that there are so many suppurative affections which are liable to be misinterpreted as malaria, that this point should be emphasized.

DR. J. A. WITHERSPOON, Nashville, Tenn.: I rise to insist on a never-ceasing effort on the part of the physician to teach people how to rid themselves of this fell destroyer. Notwithstanding the fact that our brothers in Boston may find cases in which errors in diagnosis have been made, such as pyelitis and infected gall-bladders, if they would only visit the delta of the Mississippi River they would have more respect for the old-fashioned malaria of which Dr. Harris has spoken. I will even go farther and say that we realize the mistakes that are made, and that blood counts are necessary, but from my own personal observation I believe that there is no better class of men who can handle malaria in general than those men who practice medicine in the south where this disease is so prevalent. It is a mistake to say that down there the diagnosis is made largely on hearsay and without proper examination. There was a time when, all over the country, the physician looked at the patient's tongue and felt of the pulse and made a diagnosis; that is not true today in my section of the country. In spite of the statements made by Osler, Pratt and others that if a fever does not yield after administration of a few doses of quinin it is not malarial, I wish to state that no more false statement was ever made in the Mississippi Valley than that; it certainly is not true. I agree with Dr. Harris that the early disappearance of the malarial plasmodium from the peripheral circulation in the latent cases of the disease does not mean that they are gone entirely from the circulation; one may repeatedly examine the blood and not find them; but they are still to be found in the deep-seated organs, lying there dormant, especially in the spleen and other organs. It requires several months of continuous treatment to eradicate the disease in such cases. It seems to be almost impossible to eradicate malaria of latent form if such patients are allowed to be up and around. We are up against a problem that costs not millions of dollars only, but hundreds of lives throughout the country because the disease is not properly treated in the latent stages.

DR. C. SHATTINGER, St. Louis: The question in mistaken diagnosis from Boston is interesting, but I should like to bring up a reverse condition, and relate a case which occurred in Kentucky where malaria is so prevalent, and where physicians might be supposed to be familiar with the disease. This patient, a woman, suffered for a long period of time and it was believed that she had some ovarian or uterine disease, and hysterectomy was decided on. By accident she happened to fall into my hands. Examination of the blood revealed swarms of the plasmodia. In this case 35 grains of quinin were given every 24 hours and it was necessary to keep this up for a period of 10 days before the paroxysms ceased. This corroborates Dr. Witherspoon's announcement that we cannot control the disease always by the administration of 1, 2 or 3 large doses of quinin.

DR. R. ALEXANDER BATE, Louisville, Ky.: A point brought out by Dr. Harris that impressed me very much was the quiescence of malaria for a period of 3 years. I do not wish to question this statement, but I wish that Dr. Harris would tell us why such a statement should be sustained. It is believed that the malarial protozoon segments in the light; therefore, this accounts for the immunity sustained by some of the negro race. I can readily understand why the protozoa might remain in a quiescent state for a reasonable period of time. But how can Dr. Harris explain that reinfection did

not take place and that there was not a relapse? How can he explain or exclude the possibility of reinfection? It was suggested by one speaker that the malarial protozoa are in the deeper structures, not so much in the peripheral circulation, and away from the light; but how can this be demonstrated?

It is of course beyond question that the mosquito is the active agent in the cause of malaria; but I think, with certain Italian observers, that the mosquito is not the only source of infection. In recent papers the statement has been made that we must eradicate the swamps before malaria can be eliminated from a district infected with this disease.

With regard to the periodicity of malaria, it should be remembered that there are many diseases of metabolism which show periodicity. Certain materials accumulate in the system unutil a period of toxicity is reached.

DR. ARTHUR G. BELL, Dallas, Texas: A case in a blacksmith, weighing 250 pounds, in my district was diagnosed as hip-joint disease. He had been a confirmed invalid for several years, and simply directed the work at his shop. He told me that some physicians had diagnosed his case as rheumatism and that others had pronounced it hip-joint disease. One surgeon stated that the Y-ligament had been bound down by adhesions, and that nothing would give relief except an operation. I examined the man carefully. I decided that his facial expression indicated chronic malarial cachexia. He ridiculed the idea, giving no history of malarial complications. Nevertheless, I directed him to take 4 grains of quinin, 3 times daily, till an ounce had been taken. After this simple treatment had been continued for some time the trouble disappeared like magic. The ligaments soon assumed their normal actions. Frequently I have seen physicians who lived in the same state or county disputing vehemently whether it was right to give quinin in malarial hematuria or not. One says that if you give quinin in malarial hematuria the patient will die. The other says that if you don't give quinin the patient will die. Some communities would not tolerate a doctor if he gave quinin in such cases, and others would discredit a physician if he did not. The text-books agree no better than the practitioners. One says quinin. The other says no quinin. It is said, however, that in cases of malarial hematuria, in which there are red corpuscles in the urine, quinin is indicated whereas when there is hematin, or hemoglobin in the urine no quinin is safe. When I formerly took steps to stop the hemorrhage from the kidneys I usually signed an extra death certificate. I have not attempted to stop the hemorrhage from the kidneys in my late cases. I wish to call attention to the fact that in the disease called malarial hematuria there seem to lurk two distinct diseases —one demanding quinin and the other no quinin. Will some one make the differentiation?

DR. ISAAC IVAN LEMANN, New Orleans: One cannot be sure of one's diagnosis of malaria without an examination of the blood for the plasmodium. This is a point that cannot be put too strongly. Dr. Harris is probably correct in looking on the incompletely treated patients as a reservoir for the further propagation of the disease. The plasmodia may be deep-seated in the internal organs, and not found in the peripheral circulation, but one can only determine that by aspirating, for instance, the spleen. Splenic puncture is relatively a rare procedure, and one which is not often justified. The real point I wish to make, however, is that in many of the cases of intermittent chills and fever the disease is not malaria at all; these might be the symptoms of a lot of other diseases.

DR. B. W. FONTAINE, Memphis, Tenn.: After an experience of ten years in a very malarial district it has become my rule to doubt the diagnosis of this disease, malaria, unless the parasite is demonstrated in the blood. After repeated search for the plasmodia in the blood, if I fail to find any, then I doubt the diagnosis of malaria.

DR. J. A. CHILTON, Van Buren, Mo.: My first experience with malaria was personal; I had it myself, and with ten years' experience in wrestling with this disease as a physician, I have come to have certain fixed ideas regarding it, founded on this experience. I believe that the disease becomes dormant, so to speak, and remains deep-seated in the system for months, and that it requires in many cases months to free the system from it, and to effect a certain cure. I have treated a great many patients who would obtain medicine enough to keep the chill off, and notwithstanding my advice to return for further treatment, would neglect the matter until another chill, or perhaps two, would send them back to me, usually some time for the fourteenth to the twenty-first day from the date of their first visit. I have had careless patients repeat this thing many times, thus demonstrating the necessity of continuous treatment. I wish to relate one case of interest. A young man, about 22 years old came to me for medicine to relieve his fever and headache temporarily. On inquiry and investigation I found him suffering from malarial chills, and he said that he had had them for about all his life, and almost constantly for the past two years and that he had "tried the doctors" till he was discouraged, and did not wish any treatment save to get temporary relief. This man's history, together with the clinical symptoms, were all that was necessary to establish a diagnosis. I succeeded in getting him sufficiently interested in his condition to agree to stay with the treatment for four months if necessary, which he did. After beginning treatment with quinin and other tonics as iron, etc., combined with sufficient elimination through the bowels, the man did not have another chill, and in two months the color came back to his cheeks, he regained his strength and was redeemed from the ravages of malaria; he returned to his work, that of a common laborer. This man was under constant treatment for three months. I relate this case to illustrate the necessity of constant treatment, continued for a period of months, in order to cure malaria, and my belief that the plasmodium will "hibernate," so to speak, in the spleen for a winter, and come forth in the spring hungry and "seeking whom he may devour," resulting in another attack of chills, unless the patient be given proper and continuous treatment.

DR. T. J. RAGSDALE, Lee's Summit, Mo.: I should like to relate the history of four cases of malaria seen by me 2 years ago. These patients were four young men who had been away from town but returned to it with malaria. They were treated about three weeks and the malaria disappeared. These young men were apparently well from September or October until the following April. When all four developed chills and fever again within a week or ten days of each other. After three months of appropriate treatment they were cured. In citing these cases I wish to call attention to the regularity with which they suffered relapses.

DR. D. C. WATT, Little Rock, Ark.: I dislike to think that the feeling against the mosquito is waning; the eradication of the mosquito is possible. Those of us who live and practice in the malarial countries know perfectly well that people who are protected from the mosquito by screens, suffer less from malaria than those who are exposed to the mosquito. In the treatment of malaria I think the individual himself is very much neglected; we should treat the patient more than the disease; because if we understand the normal condition and abnormal relations, we will find that the plasmodia will not be in evidence when the condition is practically restored to the normal. In the south most of the people carry with them the plasmodia; but what I wish particularly to emphasize is that we must pay more attention to the treatment of the individual. In giving quinin, a certain amount of discretion must be used. When I am treating patients from August to October I use very little quinin excepting as a prophylactic. But in the earlier months I give full doses to effect. I am sure that quinin has been the cause of immediate death of some of my patients suffering from subacute malaria. We have to consider the matter of waste and repair. I believe that it is the patient more than the disease that should be considered.

DR. A. H. VANDIVERT, St. Joseph, Mo.: The statements in regard to the diagnosis of malaria by an examination of the blood, and the finding of the plasmodia, are correct, for this is the scientific way; but in the larger percentage of the cases of malaria, the diagnosis will be made by other means than a blood examination. Frequently the diagnosis will be made on the symptomatology alone. We should be careful

to differentiate between malaria, septic fevers and other forms of disease which cause periodical chills and fever. There is no doubt that the administration of quinin in proper doses, if properly assimilated, will eradicate the malarial poison. When giving quinin to the extent of ½ dram we are giving a sufficient amount to stop, temporarily at least, the malaria, or the malarial infection we come in contact with. If more than ½ dram of quinin is required it means that the quinin is not properly prepared, or that it is not the right preparation, and that the drug is not given in sufficient quantities. The question always is: Why is not the drug properly assimilated? If quinin is not taken up by the stomach, then it should be administered in some other way.

This whole question of malaria resolves itself, I believe, into the correct diagnosis by scientific means if possible, or otherwise by the clinical symptoms. Success in the treatment means the continuation of the treatment over a period of months, and looking to the proper assimilation of the agent which brings about the eradication of the malarial element from the system. This is the experience of most men who live in malarial districts and who are called on to treat this disease frequently. In my section of the country there is less malaria now than there was a few years ago; the draining of the swamps has caused a decrease in the number of cases. Malaria was very prevalent before the days of the investigation of the blood for the plasmodium. We certainly have advanced very far in our knowledge of this disease.

DR. A. COMINGS GRIFFITH, Kansas City, Mo.: I want to call attention to one point brought out in the paper, the similarity of malaria and syphilis. Recently a patient was brought to me with a history of infection, with chills and fever. Examination of the blood revealed the presence of the malarial parasite. This patient, a man, was placed on quinin in small doses and the chills and fever disappeared. However, the enlargement of the spleen and liver did not disappear. The patient got along nicely, was up and about, and 6 months later had shown no recurrence of the trouble. He went south because of some specific trouble and there the specific lesion was found. The blood again was examined but no plasmodia were found. The patient had a well-marked systolic murmur and his condition pointed to chronic endocarditis. He died. At autopsy there was found that the diagnosis was a correct one, chronic infectious endocarditis. There still existed an enlargement of the spleen and the malarial parasite in the blood.

DR. SEALE HARRIS, Mobile, Ala.: Regarding the administration of quinin in malaria, the ordinary soft gelatin capsule is usually easily dissolved in the stomach, but to be certain of solution, it may be followed with dilute hydrochloric acid. Most patients object to taking quinin in solution. Gastric disturbances following the administration of quinin do not often occur when the doses are small, but frequently follow the large doses, i. e. fifteen grains. Dr. Chapman spoke of giving a patient 150 grains of quinin in one day. His patient did not die but I think it dangerous to give such large doses. Large doses will not cure malaria any quicker, or more certainly than will 30 grains a day in divided doses. The experiments of Rogers in the tropics proved this. He gave as high as from 60 to 100 grains a day, but these large doses did not shorten the course of the disease any more than the 30 grains a day, and he found that the large doses were distinctly depressing.

Dr. Wolf mentioned a case of pneumonia supposed to result from malarial infection. Malaria may have been a complication but I do not think that the plasmodium can cause a true pneumonia. The presence of the parasite in the blood does not necessarily mean that the patient is not also suffering from other disease. Always look for something else. Dr. Bass's remarks regarding the frequent absence of the plasmodium in the peripheral circulation in chronic malaria I believe to be correct. Sometimes, however, we find the plasmodium in the blood of patients who give no history of having had chills, fever, or other acute manifestation of malaria. Dr. Pratt doubts that the malarial parasite causes neuralgia, neuritis, general paralysis and nephritis. One of my colleagues, Dr. E. D. Bondurant, who is professor of neurology in the University of Alabama, has made frequent examinations of blood of patients suffering from these diseases and other nervous disorders. He states that in the majority of such patients coming from malarial districts, malaria is the causative factor and the symptoms yield to quinin. Dr. Bondurant also states that he has seen cases of the acute psychoses due to malaria. Manson has also called attention to neuralgias and neuritis of malarial origin.

With regard to the effect of malaria on the kidneys, I merely cite the articles by Marchiafava and Celli in the "Twentieth Century Practice of Medicine," edition of 1900. Many others have also called attention to the fact that malaria may cause nephritis. It is unquestionable that arteriosclerosis is much more common in malarial districts than elsewhere. I must take issue with Dr. Pratt's statement about the cases of fever that do not yield to quinin in 3 days not being malaria. Most of them are not, but some cases of malaria are very resistant to quinin. I must also differ with him in what he quoted Dr. Craig as saying. In the April *Archives of Internal Medicine*, Dr. Craig states that he found the parasite of malaria in the blood of a number of patients who had been taking quinin for varying periods of time, some of them longer than a week.

In 1903, in the *Therapeutic Gazette* I reported the case of a patient who had had quinin in solution in large doses for more than a week, yet the fever continued and crescents were found in the blood. Last year in this Section Dr. Darling reported several cases in which the patients had been given 30 grains of quinin a day for from 2 to 3 weeks yet the crescent forms were not destroyed. We all must agree with Dr. Witherspoon in what he says regarding the crusade against malaria. This is certainly very important and should hold the attention of all.

In regard to my authority for the long periods of quiescence or latency in malaria, I refer to Deaderick's book on malaria. Dr. Bate also spoke of the immunity, or infrequency, of malaria in the negro race. I do not believe there is any greater fallacy with regard to the negroes than is contained in such a statement. The statistics for 1900 show that in proportion to population three times as many negroes as whites died from malaria. The negroes certainly have malaria as much as do the whites but possibly not in so severe a form. I do not believe that there is any such thing as immunity to malaria. I agree with Dr. Lemann that a blood examination, whenever possible, should be made in every case of suspected malaria; but there are thousands of physicians all over this country who do not possess a microscope and yet who in nine-tenths of the cases are able to make a correct diagnosis of malaria. This is especially true in malarial districts. However, one should bear in mind that if a patient residing in a malarial district has a chill, it is not necessarily due to malaria; it may be due to a number of other causes.

The real and important point which I desire to emphasize is this: If you do not question your diagnosis of malaria, give the patient quinin at once and keep on giving him quinin until he is radically cured. It has been proved that malaria can be absolutely eradicated from malarial localities by the use of quinin alone. Koch advanced this theory ten years ago, and his plan was carried out on some islands off the coast of Africa. In less than two years, by administering quinin, the disease was practically eradicated from them. In Italy and in southern Austria the same results were obtained. The most important point to remember in prophylaxis, is to cure malarial patients. Cure them. It takes several months to do this. But if you do not cure them they will be carriers of the infection from one year to another.

Differential Diagnosis Between Lichen Planus and Syphilis.—The glans, penis and vulva may be affected with lichen planus, but as this is usually associated with lichen planus in other or more typical situations, such as the forearms and legs, it seldom leads to any error in diagnosis. It must be borne in mind that syphilis may occur in a patient already suffering from psoriasis or lichen planus, and when this happens the character of the non-specific eruption is modified.—C. F. Marshall, in the *Practitioner*.

DIETARY STUDIES OF UNDERNOURISHED SCHOOL CHILDREN IN NEW YORK CITY*

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The average person selects the different food materials in the market with very little knowledge of their actual nourishment value. When the income of the family is so limited that every cent must be made to go as far as possible, which is true of the average family living in the "poor" quarters of our great cities, then it is evident that ignorance of food values must mean much unnecessary expense, and perhaps suffering to those who can ill afford it.

My previous studies of 1,200 malnourished school children and the wide-spread interest shown as a result of my article on that subject have prompted me to further and deeper studies along this line, the result of which I now lay before you.

In order to make these dietary studies I have followed the plan of Atwater, since that seems to be the most accurate. Thus careful and accurate account was kept of the kinds, amounts, composition and cost of all food materials eaten during ten days, which was the period of investigation, and to insure accuracy the period should not be less. From this the cost, nutrients, and fuel value per man per day were computed in cents, grams and calories; the composition of each material used as shown by analysis, and the amounts of the different nutritive ingredients were determined. An account was kept of all the meals taken by each member of the family, as well as visitors or boarders, should there be any during this period of investigation.

The factors used in calculating the meals consumed in these dietary studies, were those commonly recognized as being the standard and were taken from Atwater's latest work, namely:

A man at hard muscular work requires 1.2 the food of a man at moderately active work.

A man with light muscular work and a boy 15 to 16 years old require 0.9 the food of a man at moderately active work.

A man at sedentary occupation, a woman at moderately active work, a boy 13 to 14, and a girl 15 to 16 years old require 0.8 the food of a man at moderately active muscular work.

A woman at light work, a boy 12 or girl 13 to 14 years old require 0.7 the food of a man at moderately active muscular work.

A boy 10 to 11 and a girl 10 to 12 years old require 0.6 the food of a man at moderately active muscular work.

A child 6 to 9 years old requires 0.5 the food of a man at moderately active muscular work. A child 2 to 5 years old requires 0.4 the food of a man at moderately active muscular work. A child under two years old requires 0.3 the food of a man at moderately active muscular work.

It is by the use of these factors that the number of meals actually taken by each member of the family is computed in terms equivalent to the number of meals for an adult man. Thus the total number of meals taken by the family is expressed in terms of meals per man, which, being divided by the number of meals per day, which is three, the number of days for one man is obtained. The total nutrients of the food eaten divided by the equivalent number of days for one man gives the amount per man per day.

DIETARY STANDARDS

Atwater reports studies of twelve laborers' families with ordinary work in large cities in the United States, in which the averages were per man per day, protein 101 gm., fat 116 gm., carbohydrates 344 gm., with a fuel value of 2,810 calories, which is an insufficient diet, according to the standards.

In eleven poor families in New York City the averages of the food actually eaten were protein 93 gm., fat 95 gm., carbohydrates 407 gm., and fuel value 2,845 calories.

In ten Russian Jewish families in Chicago the averages were, protein 137 gm., fat 103 gm., carbohydrates 418 gm., and fuel value 3,135 calories actually taken per man per day. These are enough quotations of previous studies to make our comparison.

The dietary standards as given by Atwater, and which have been pretty generally accepted, are as follows:

A man with hard muscular work, protein 175 gm. (or 0.39 pounds) with fat and carbohydrates in sufficient amounts to produce a fuel value of 5,500 calories.

A man with moderately active muscular work, protein 125 gm. with fat and carbohydrates enough to produce a fuel value of 4,150 calories.

A man with light to moderate muscular work, protein 112 gm. (or 0.28 pounds) with fat and carbohydrates enough to produce a fuel value of 3,400 calories.

A man at "sedentary" or a woman with moderately active work, protein 100 gm. (or 0.22 pounds) with fat and carbohydrates enough to produce a fuel value of 2,700 calories.

A woman at light or moderately muscular work, or a man without muscular exercise, protein 90 gm. (or 0.20 pounds) with fat and carbohydrates enough to produce a fuel value of 2,450 calories.

The average of twenty-eight dietaries studied by me showed the following per man per day (all the families having malnourished children):

Cost 19 cents, protein 95 gm., fat 68 gm., carbohydrates 407 gm., calories 2,614. These all did active or moderately active work.

Some six of these dietaries were up to or above the recognized standards, and therefore raised the general average considerably, but most of the dietaries were considerably below the ordinary standard, few being up to 3,000 per man per day, and some as low as 1,600 calories per man per day, with corresponding low fat, proteid, and carbohydrates, thus showing the undernourished condition due to lack of proper food.

In those families whose dietaries were up to or above the standard there were always other good and sufficient reasons for the malnutrition of the children, such as close quarters, overcrowding, late hours, infrequent bathing, eating candy between meals, and tuberculous infection, or convalescence from disease; also adenoids and enlarged tonsils in some cases, or organic disease.

Dietary studies of six fairly well-to-do families, at moderately active muscular work, showed averages per man per day as follows:

Cost 35 cents, protein 149 gm., fat 115 gm., carbohydrates 569 gm., and calories 3,884. Thus it will be seen these six families had about sufficient food and a fairly nourishing diet, and the adult members were well nourished. I could attribute the malnourished condition of the children only to the fact that they ate cheap candy between meals and thereby spoiled their appetites for nourishing food, lived in crowded quarters, sat up late at night, had organic disease, or were convalescing from

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

disease. All of these were good reasons for their condition.

Another fact that has been most strongly impressed on my mind in making a record of each child's meals is that most of them ate very little in the way of breakfast and that the nutriment which they obtained from that meal was entirely inadequate for the demands of the growing body. The average breakfast of these children consists of tea or coffee and bread, and the consequence is that many are so hungry in school that they cannot concentrate their minds on study.

From a previous study of the meals of 210 malnourished children, I found that the following breakfasts were given.

Tea or coffee and bread	165
Cocoa or milk and bread	30
Milk or tea and egg	10
Coffee and oatmeal	4
Nothing	1

It is well known that breakfast is the important meal for the growing child.

Dr. H. M. Lechstrecker, of the New York State Board of Charities, examined 10,707 children in industrial schools of New York, with the following result: 998 had coffee or coffee and bread only for breakfast; 439 had no breakfast; 998 were anemic owing to lack of nourishment. Only 1,855, or 17.32 per cent., started the day with an adequate meal.

These studies were carried on among families of the poorer classes, living on the lower "East Side" of New York City, below Fourteenth Street, and east of Third Avenue and the Bowery. The families studied were representative of the people in this district and a large number of occupations were represented. Dietary studies were made from thirty-four families. Some were found to be shiftless and slovenly and took no interest in having a clean, comfortable home and setting an attractive table, while others, though ignorant, were willing and desirous of learning how they could improve their way of living and dietaries.

The range in total income per family was from an amount not sufficient to buy the absolute necessities of life, to an amount which should be ample for their needs and equal to that on which other families have been found to live comfortably. In no case among poorer families was there any food used which required care or work in preparing; whether this was from ignorance, lack of energy, opportunity, or convenience, it is hard to say; each cause no doubt was a factor to a certain extent, but ignorance seemed to be the principal reason.

The studies were carried on and the final results calculated according to the methods of Professor Atwater. Practically all this computing work has been done with a calculating machine, but even with this great aid the amount of detail work was considerable. The data obtained in each family studied was (1) the nationality, age, sex, occupation of each member of the family; (2) the income of the family; (3) the expenditures for rent, and food, gas, coal, etc.; (4) the kind, quantity and quality of food consumed; (5) the number of meals taken by each person present during the study. From these data, and the standard tables showing the composition and fuel value of the different food materials used, the quantities of nutrients and energy consumed per man per day were computed.

This made it possible to compare results with recognized standards and to judge whether the families were receiving proper nourishment, and whether they used good judgment and intelligence in the selection and purchase of food, and also to point out how a more nutritious diet in many cases could be purchased for the same amount of money or as nourishing a diet for less money.

In thirty-four such dietary studies made, twenty-eight dietaries were found to be deficient in protein, fat, and carbohydrates, with a corresponding low fuel value per man per day, and by multiplying these results by the factor used according to the ages of the undernourished child we obtain a diet correspondingly low for it.

The average of thirty-eight dietary studies of fairly well nourished families made in the United States of persons at moderate work, showed that these persons received 134 gm. of fat, 487 gm. of carbohydrates, in combination with 102 gm. of protein.

But the average of twenty-eight dietary studies that I have made gave protein 95 gm., fat 68 gm., carbohydrates 407 gm., thus showing great deficiency in all the food ingredients.

The average of these thirty-four dietary studies showed that 61 per cent. of the money spent was for animal foods, and 39 per cent. for vegetable foods, and about the same amount of protein was obtained from the animal as from the vegetable foods (slightly more from the vegetable foods. About five times as much fat was obtained from the animal as from the vegetable foods, or over 80 per cent. Over 70 per cent. of the carbohydrates came from the vegetable foods and more than twice the number of calories were obtained from the vegetable food as from the animal food. The carbohydrates furnished by the animal food came mostly from the milk.

In the studies of nearly 200 dietaries in families of widely varying circumstances in different parts of the country, it was found that the various animal foods made up about one-fifth of the total amount of food, and furnished more than six-tenths of the protein and nine-tenths of the fat used. My studies would indicate then that these thirty-four families with undernourished children got less than five-tenths of their protein from animal food and eight-tenths of their fat from the same source.

The fuel value of each food used in these dietaries was computed by means of values previously obtained from the studies of Professor Atwater, and others, by the use of the bomb and respiration calorimeters, which give for our common foodstuffs as ordinarily used in diets, the following general estimates for the energy furnished to the body by 1 gm. or 1 pound of each of the different classes of nutrients (calling an avoirdupois pound equal to 450 gm.); to be mathematically exact it should be 453.7 gm. to the pound. Protein, fuel value, 4 calories per gram, or 1,820 calories per pound. Fats, fuel value 9 calories per gram or 4,040 calories per pound. Carbohydrates fuel value, 4 calories per gram, or 1,820 calories per pound.

Thus it will be seen, having this data and the percentage of fat, protein and carbohydrates in each article of food as per analysis,[1] in order to ascertain the number of grams of protein, fat, and carbohydrates in each variety of food, one should find first the total number of grams weight by multiplying the weight of food by 450, the number of grams per pound avoirdupois, and multiply this result by the per cent. of protein, fat, and carbohydrates as shown by chemical analysis to be present in each article.

1. Atwater, W. O.: Principles of Nutrition and Nutritive Value of Food. Farmer's Bull. 142, U. S. Dept. Agric., corrected to April 5, 1906.

IMPROVEMENT OF DIETARIES BY KNOWLEDGE OF FOOD VALUES AND PROPER SELECTION OF FOOD

Almost all dietaries studied could have been improved both from a nutrient and an expense standpoint. In practically all a very small amount of the cereals, such as oatmeal, hominy, corn meal, rice, cracked wheat, etc., were purchased; also a very small fraction of the diet was made up of the dried legumes (beans, peas, lentils) although more nutriment (protein) can be obtained from these (properly cooked) for a given sum of money than from any other foods. It is well known that protein is the most important ingredient of food as it is the tissue builder, since it is the basis of muscle, bone and almost all the tissues and fluids of the body, hence its importance to the growing child. The cost of dried beans was 6 cents a pound and the cost of cereals by bulk the same.

The bulk of the nourishment in these diets was obtained from meat, milk, and bread and rolls. Baker's bread was used almost entirely, and the rolls used were purchased from the baker. This bread was rye and varied in price in the different families from 1.3 cents to 4 cents per pound and the rolls were made of white flour and were more expensive, costing about three times as much per pound as the bread. The majority of families paid from 3 to 3½ cents per pound for their bread. Those that paid less got stale bread, which is just as nutritious and healthful, and much more economical.

There is no doubt that it would have been better economy had they bought the flour and made their own bread at home if it could have been baked while the fire was being used for cooking other things, so that there would be no waste of fuel.

The milk used cost from 5 to 9 cents a quart, the cheaper grade being obtained from the groceries from the can in bulk, while the more expensive grade was delivered at the house in sealed quart bottles. For many of the poorer families more nourishment could have been obtained for the same amount of money by the purchase of skimmed milk.

The meat used by practically all the families was chuck and flank of beef, which cost them 16 to 18 cents a pound, and this was about as economical fresh meat as they could have purchased for its nutrient value; corned beef, however, might have been used part of the time to advantage with less cost.

Some of those in better circumstances bought round steak, and chicken, the chicken being an extremely expensive article of diet, for its food value, as it was purchased in small quantities, a small portion of a chicken such as a quarter at a time, which cost them anywhere from 15 to 28 cents a pound. Nearly all used fish in moderate quantities, principally carp, pike, buffalo fish, and salt herring.

One family received the same number of grams of protein, but six times as many grams of fat, and nearly as many calories from 2 pounds of herring at 15 cents as from 4 pounds of carp at 40 cents. Comparatively few eggs were used during the time of year these dietary studies were made, which was February, March and April, and those used cost from 36 to 40 cents a dozen, which made them an expensive food.

A few families bought a quart of strawberries every day at 10 cents, while others spent considerable for mineral water, and alcoholic drinks, all of which had very little food value, and were more or less injurious to health.

THE NEED OF MORE THOROUGH INSTRUCTION IN THE SCHOOLS

It is most important that the coming generation of young girls should be thoroughly educated as to the comparative nutritive value of the different foods; how these foods may be best cooked to make them nourishing and appetizing and the proper dietaries for different ages and occupations. This branch of their education has been heretofore much neglected and holds only an inferior place in their school curriculum. As the ultimate vocation of practically all is motherhood, it is far more important that they be educated in branches which will always be of value to them than that their minds be filled with languages and higher mathematics. The same girls who are now being educated will be future wives, mothers and housekeepers, and the knowledge gained in these matters will not only be of inestimable value to them in their families, in the economical purchase and cooking of food, and proper feeding of their children so that they will develop into strong and healthy men and women, but by their examples and modes of living they will educate their offspring along these lines of better living and gradually improve the nation.

It is well known that insufficient and poorly cooked food, coupled with meals uninvitingly and unattractively served, are the forerunners of alcoholism, drunkenness, crime and disease. Of 101 malnourished school children tested 55 per cent. gave a positive reaction to the von Pirquet tuberculin test.

By keeping our citizens and their children well nourished much will be done toward preventing the spread and ravages of the great white plague. The best way of accomplishing this, then, is by educating the children along these lines in the public schools. A more systematic study should be made of all the foods used as to their composition, best methods of cooking, amounts necessary and kinds best suited to different ages and occupations, and especially as to the importance of a well-cooked, wholesome and nourishing diet for the growing child. This should be gone into very thoroughly in the schools and more hours given to this most important branch.

Improvement must begin physically before any marked improvement can be made mentally, morally or spiritually, and physical development depends on the right nutrition of the body. There should be cooking classes conducted by competent cooks and teachers thoroughly trained and educated in cooking, food values, dietetics, economics, etc.

Dietaries for families with different incomes should be made out and the children taught to cook the articles suggested so that those with a limited income, as well as those better off, may be able intelligently to provide nourishing and appetizing food. It should not be lost sight of that some variety in the diet is important as thereby the stimulation of the appetite and the esthetic taste is increased, although great variety and choice of things out of season are not essential, which should be borne in mind when strict economy must be practiced.

No girl should be entitled to a graduation certificate or working papers until she has passed a rigid examination covering these subjects; and boys should be taught also the different ingredients of foods, and which foods are most healthful, nourishing and economical to buy, as well as the amount of protein, fat, and carbohydrates and number of calories necessary for proper nourishment at the different ages and in different occupations,

the balanced diet and how best to obtain it. Children and adults alike should be taught that "the most healthful food is that which is best fitted to the uses."

"The cheapest food is that which furnishes the largest amount of nutriment at the least cost, and the best food is that which is both healthful and cheapest" (Atwater).

INSTRUCTION FOR MOTHERS

Passing from the education of the children we come to the immediate needs of providing a suitable, nourishing, and appetizing diet for the families. To accomplish this we must educate the mothers (for they purchase and cook the food for the family) along the same lines as those advocated in the schools. Something can be done by means of free lectures, free cooking classes, the distribution of pamphlets and other literature printed in different languages, setting forth in simple language the best, most nourishing, and most economical foods to purchase, and how to cook and serve these simple wholesome foods to make them inviting and appetizing, so that a small expenditure may return an ample nutriment value.

It is my belief, however, that only a small number of the poor and ignorant can be educated by these means; they must be reached in other ways; as, for instance, through large organizations such as the Woman's Christian Temperance Union, the Salvation Army, the American Federation of Labor, the Young Men's Christian Association, and others equally far-reaching. The United States government, and the press, through the large daily papers and other widely read publications can most effectually reach the masses, since conditions found in New York City obtain in other large cities of America as well. A series of short articles should be written, setting forth in simple language proper diets, foods, proper methods of cooking, proper nutrition and the laws of growth, so that every wife, mother, and housekeeper might know and understand. There should be shown the high nutritive value of the cheaper foods as compared with those more costly, and methods of improved cooking. A great deal of food is badly cooked. If the cheaper foods well cooked replace the dearer kinds badly cooked, and the table be made attractive, there will result both saving in expense and happier and more contented home life. A great deal can be done in this respect by individual and group talks to mothers and children in the dispensaries, giving reasons for the foods and diets advocated. This method I have pursued for many years with most gratifying results.

REQUIREMENTS OF THE GROWING CHILD

For the proper development and growth of a child, Nature demands that certain fixed and unchangeable rules be followed and when these rules are disobeyed development and growth are impaired and often, as a result, disease follows.

A child is a young animal and should be considered as such, and should at least have as much care and attention shown it as is given to our young animals. Thousands, however, do not receive that care and attention on account of ignorance and neglect on the part of their parent.

Every child, to grow steadily in both mind and body and to be healthy must have nourishing, well-cooked food, suitable for its age and in sufficient quantities, given at regular intervals. Children are so active, and use up so much food in the shape of energy in that way, besides the food they need to develop the body and renew the wear and tear of the body, that they require a highly nutritious diet, containing a high percentage of protein, and this is especially important where the child is malnourished.

A child requires long and regular hours of sleep, and under the age of 12 years every child should be in bed at 7 or 8 p. m. Children under 7 or 8 years, especially if undernourished, should have a nap of an hour or two during the middle of the day. In my studies of over 210 malnourished school children under 10 years of age nearly 80 per cent. went to bed at 9 o'clock or later and the other 20 per cent. went to bed at 8 o'clock. The growing child to be well must be properly clothed, and have plenty of fresh air. Four or five hours out of doors every day are essential, and the sleeping rooms must be well ventilated at night.

Every normal child should have certain hours for play and certain hours for study. Long hours in ill-ventilated school rooms for young children do great harm by undermining the health of the child, which is far more important than the learning he gets. Cleanliness is an important factor in the well being and health of every child, and a tub bath should be given at least once a week in winter and oftener in summer.

If children are given a fair chance by adhering to these principles and giving them only what every child in the land has a right to demand, they will be hardy and strong and grow like little animals.

IMPROPER AND UNSCIENTIFIC FEEDING DIRECTLY AND INDIRECTLY THE CAUSE OF MANY AILMENTS

That improper and unscientific feeding of children from the time of birth to maturity is one of the most fruitful causes, both directly and indirectly, of disease, disability, incapacity for work, both mental and physical, loss of energy, susceptibility to contract and inability to withstand disease, everyone who has had wide experience must admit. This paper, however, deals with the child after the stage of babyhood has passed; in other words, the school child, up to the age of 10 or 12 years.

My experience has been in treating hundreds of these children that they contract disease much more easily and have less power of resistance than well-nourished children, and when disease is contracted it is apt to be more severe and prolonged. These children have so little reserve force to fall back on that when they have to undergo a severe illness, or operation, they are apt to succumb.

Ill-nourished children are especially subject to catarrhal affections of the nose and throat and to bronchitis; they also are very susceptible to cold, and easily affected by it. Many are affected with or subject to rheumatism, articular and muscular, and rheumatic sore throat; also not a few have chorea and rheumatic endocarditis.

All of these children are easily fatigued, both mentally and physically and have not the capacity for work that we see in well nourished children. Many of them have a tired, worn, inattentive look, complain of feeling tired and cannot concentrate their attention for any length of time, and their gaze is constantly wandering. They are anemic; their brains, as well as their bodies, are starved for want of nourishment. Many of them are put down in the schools as dullards, or backward children. In these cases good nourishing food is far more necessary for the stomach than books to feed the mind. It is an impossibility to concentrate the mind or to study on an empty stomach or when hungry.

In England, Scotland and France, nourishing meals are given in many of the schools at slight cost. Tickets are issued which provide the children with healthful,

sufficient breakfasts. These tickets are previously purchased by the parents. Many meals are given free, and no distinction is made between those who pay for their meals and those who are unable to do so. The person who distributes these meals cannot possibly know whether the tickets were paid for or whether they were a free gift to the child. It has been amply proved that this does not make either parents or children paupers, so the fear of making paupers is no argument against adopting such helpful measures in our own country.

THE GREATEST FIELD FOR THE IMPROVEMENT OF THE POOR IN GREAT CITIES IS INSTRUCTION ALONG THESE LINES

The problem of nourishment which is so vital to the poor and the children of the poor, and the condition of our future population and nation at large so dependent on the way her children are nourished, that it should receive the attention of all.

We find by our studies that many poor families spend more than they can afford for food and yet receive insufficient nourishment by reason of their ignorance of food values. Attempt will be made in a general way to show how the expense for food can be reduced and yet a nourishing and wholesome diet procured. Fewer eggs and less butter can be used and the cheaper cuts of meat purchased and the difference thus saved can be expended for corn-meal, wheat-flour, cereals in bulk, rice, oatmeal, dried beans, potatoes, dried peas, lentils, whole milk and skimmed milk.

Where the income of the family is very small, meat can be replaced to a large extent by the above-named vegetables and cereals, which are much cheaper for their nutritive value. A large variety of fresh vegetables is not necessary or essential; they contain very little protein or energy, and where cost is considered one or two cheaper vegetables are sufficient. The cheaper cuts of beef contain more protein and fat and less waste than the more expensive cuts, and these with wheat-flour, bread, oatmeal, peas, and beans furnish abundant protein very cheaply.

The cheaper cuts of pork, flour, bread, sugar, corn-meal, potatoes, and rice furnish abundant fuel and energy in a cheap form.

It has been found that the cheapest source of protein is the cereals; next comes meat; the most expensive being fresh vegetables. Fancy high-priced fruits and those out of season should not be used.

The diet, as is well known, should vary somewhat with the climate and season of the year, and proper cooking of food is most important, making it more appetizing, more digestible, and more nourishing.

In the majority of families among the poorer classes the food is poorly chosen, poorly cooked and poorly served, and in not a few families there is considerable waste, especially among those who are fairly well to do.

A carefully selected diet is necessary to keep the balance so that there may be as nearly as possible the right amount of fat, protein, or carbohydrates. Extremes of diet should be avoided, and a mixed balanced diet of protein, carbohydrates, and fat maintained.

Emphasis should be laid on the necessity of setting a clean attractive table, having the meals eaten at regular hours, the whole family sitting down at the table together when the meal is warm.

If such standards can be thoroughly instilled into the minds of our poor people, more will have been accomplished toward the improvement of the present condition of the poor, and the betterment and proper and normal development of their children, and the laying of the foundation for future better living, growth, and well being, than by any other means. Indeed, along these lines is the greatest field for improvement of the poor in our great cities, and philanthropic movements should be directed towards this end.

Only those who see and treat thousands of these little undernourished, half-starved sufferers, as I do each year, can realize the appalling numbers, with their pitiful, emaciated, hungry faces, and no one but he who has become callous from many such sights, constantly working among them, can look on this tragical scene unmoved.

142 West Seventy-Eighth Street.

ABSTRACT OF DISCUSSION

DR. WILLIAM H. WELCH, Baltimore: Dr. Sill has undoubtedly touched on the fundamental points. Those interested in the playground question in this country could render great aid in spreading information in regard to the matter of the food the child receives in its home. Dr. Sill spoke of the movement to furnish one meal, at least, in the schools, but objections have been urged to that on sociologic grounds. There is just one other point I want to mention, and that is the question of skim-milk. There is no question of the value of skim-milk, but the regulation of the sale of skim-milk is somewhat of a problem to the health officer. We cannot permit the sale of skim-milk when it is likely to be mistaken by the purchaser for full milk. That was brought up by the Maryland State Board of Health. They showed me packages of full milk and packages of skim milk of the same size and the same colored label, which could not possibly be distinguished, except that one was marked, "skim milk." That won't do at all. The sale of skim milk cannot be permitted under such conditions. The packages should be different or so labeled that there cannot be any possibility of mistake between the skim milk and the full milk.

Dr. N. R. COLEMAN, Columbus, Ohio: I must refer to the matter of giving children coffee. I cannot imagine anything more injurious for a child than to give it an article that will stimulate the vasomotor nerves, contract the blood-vessels and cut off nutrition, particularly the nutrition of the brain, that develops more rapidly than any other part of the body. I do not think any more deleterious habit could be practiced. It should be prohibited by law. Coffee, tea and cocoa, in my opinion, all have the same physiologic effect, but vary in degree. They should be spoken of in such a way, not only in this organization, but by the family physician, as to prevent, so far as possible, their use. Thirty years ago I called attention to this matter, and I have been preaching it ever since.

DR. C. F. WAHRER, Fort Madison, Ia.: There are three great faults of diet: eating too much, not eating enough and eating the wrong kind of food. Over the first two we have not much control, but the physician does have some control over the third. An excellent wave of reform is going over the land in regard to the teaching of girls in the classes of domestic economy, the proper foods and the proper way to prepare them. The physician does not realize the importance of giving out an outline of what to eat. I have a patient whom I have been treating six years for nephritis, and though she is four years overdue in heaven, she is still alive. I have another one, a man who came to me for nose-bleed due to acute nephritis, and by regulating his diet he has not had another attack of nose-bleed. Another patient whom I had was a man who was asthmatic and could not go into a hay-field. It was all due to the horrible coffee he had been drinking. This man had been drinking coffee made by his wife, who never emptied the pot from one day to another, simply adding a little more coffee each time and letting it stand on the back of the stove to boil indefinitely. Her other

cooking was equally skilful. I taught this woman how to make coffee, and her husband can now go into the hay-field without any difficulty. When a patient is told by a physician that he must diet, he goes on the theory that he must starve himself. The doctor does not tell him what to eat and what not to eat. And here we err. There are plenty of good books on the market on dietetics. Buy them, inform yourselves, then give your patients definite rules as to what to eat and what to avoid.

DR. C. G. KERLEY, New York: Those of us who have seen much of life among the poor people in any large city will understand the truth of Dr. Sill's statement regarding their ignorance. I have been in dispensary and hospital work for twenty-two years, and I am impressed with the fact that it is not that these people have not enough money, but that they have no idea of what constitutes nutritious food; and children are not fed with the idea of body-building, but merely of satisfying the appetite. The mothers are not lazy, they are untaught, and that is why they adopt a makeshift diet and do the thing that is easiest. If the physician takes the trouble to tell the mother what to do she does it. It is the primary function of the physician to instruct people how to live. That may be done through organizations of different kinds. At present there is an organization in New York City which will give a "child-welfare exhibit" in November. This exhibit will show educated people the conditions that exist among the poor, and it will be made attractive by object lessons and demonstrations in order to draw the poor and show them the results which may be achieved by right living. By that exhibit a great deal will be accomplished. It will inform the best class of people how the others live and let the ignorant be taught what constitutes proper living.

DR. S. W. KELLEY, Cleveland: Just a word or two on the subject of meals, etc., for the child in school. The plan has, of course, its different sides, the question of pauperizing, and all that. We began with free schools and then free books, in some places free shoes, then free meals, free doctors, free nurses, free dentists, and nearly every possible necessity for the child in school, until the tendency is to take the child out of the parents' hands too much and leave the parents nothing to do but to bring the child into the world and turn it over to the State for its maintenance as well as for its education.

I hope that this work as it is now carried on is only a transitional stage, made necessary by the influx of ignorant and careless parents. I do not believe in letting the child suffer in the meantime. It must not be allowed to starve or to go unclothed while getting its education, but the parents must be educated in their duty as parents, and the coming generation of parents must be better informed and more attentive in their duties as parents. I believe that ultimately the duty of school boards will be confined to education. I think that they are outside of their proper function in furnishing physicians, nurses, dentists and food to school children. That, if temporarily necessary, can be carried on by other organizations. Of course, I believe in medical inspection, but school boards should confine themselves to education, even if that includes the education of the parents in many ways. The school authorities can call to their aid and cooperation other authorities and organizations, such as the juvenile courts, the humane societies and the visiting nurses associations. For instance, in the matter of meals the social settlement workers can see that the child gets well-prepared meals at home. In illness or malnutrition the physicians can instruct nurses and the nurses working among the people can carry out these instructions.

DR. CHARLES A. CATTERMOLE, Boulder, Colo.: I want to explain a plan that is followed in the West. Dietetic errors are not so common in the West as among the people of the cities. The method we have adopted is to teach the girls in the high school the method of preparing food. They are taught cooking and buying of food in the market, and they cook and serve it in a proper way and get up a meal for the school board or a committee. In the cities children live on candies and prepared foods or go without breakfast.

MINERS' CONSUMPTION

OTTO V. HUFFMAN, M.D.
Medical Director of Children's Department, Miami Valley Hospital, and Physician-in-Chief to Fruit and Flower Mission, Children's Clinic, at Dayton, Ohio
CINCINNATI

Miners' consumption is a term used by miners to designate emaciation associated with anemia, general weakness, shortness of breath and occasionally palpitation. It is distinctly a layman's term for a general condition which may be due to a variety of causes. Whoever has observed a large number of miners must have been struck with the fact that the majority are pale and thin, and that they present the facies of chronic dyspepsia. A low state of health among miners is so prevalent and the use of the term "miners' consumption" so general that the subject merits the serious attention of the medical profession.

One does not have to look far for causes of ill health among the miners. Most mines and mining towns are without any sanitary measures whatsoever. In the mine urine and feces are disposed of promiscuously. The miner's home is situated anywhere. The outhouse is nearly always on the hillside above the home, and of course the well below. The women and children seem to thrive regardless of filthy practices, however, so we must look into the mine where the miner works for the direct cause of his condition.

According to the returns of the Twelfth Census there were 528,822 persons in continental United States reported as "miners" in the year 1900. Of this number 344,205 were reported as coal-miners; 52,024 as gold-miners and silver-miners, and 132,593 as miners not specified.

Analyses reported by the Technological Division of the U. S. Geological Survey show that the atmosphere at the face of the coal in the mine contains nearly always traces of ethane, methane and carbon monoxid gases. In the ordinary management of a mine means are taken to detect these gases before they are present in such a dangerous degree as to become inflammable. Efficient forced ventilation will usually remove the gases in sufficient quantity to minimize the danger of an explosion, but at the face of the coal where the miner is working, there will always be traces of the above-mentioned gases. The stronger the ventilation, the greater the tendency to exhaust in the rooms and blind entries, with greater liberation of gases from the newly made cuts, boreholes, and broken coal. In just what way the deleterious effects of ethane and methane are brought about when inhaled in small quantities over a long period we are not prepared to say, but we do know that carbon monoxid has the property of uniting with the hemoglobin of the red blood-corpuscles to form a rather stable compound, and that it is not readily replaced by oxygen.

In mines where dynamite and other nitroglycerin explosives are used we have another source of poison. In such explosives the nitroglycerin is mixed with inert matter. As a result of an explosion the inert matter is blown into the ore or coal. Adhering to the particles of this inert matter are small amounts of nitroglycerin which have been disseminated without entering into the detonation—being firmly fixed to the particles of the menstruum like so many tablets of nitroglycerin. Later this dust containing small amounts of nitroglycerin is inhaled

during loading or shoveling, and, as every physician knows, the most efficacious way of administering nitroglycerin is to dissolve the triturate in the mouth. Another way of absorbing this poison is through the skin. Hence, these miners complain of headache, palpitation and nausea. Sometimes the men working on the tipple out in the open complain, too, as they breathe this dust when the cars or wagons are dumped.

During the past year Congress passed a law establishing a Bureau of Mines on account of the great number of miners killed or maimed annually as a result of a lack of safety devices. It may be opportune for the physicians to make some effort to better the condition of the miner from a hygienic and sanitary standpoint.

If in one of our naval ships we did not have elaborate systems of ventilation and did not make careful tests for the least increase in carbon dioxid gas for the several hundred men confined below—if we did not prohibit promiscuous expectorating, urinating and defecating, what a deplorable ship and state of health we should have!

It is no less important to have a clean, well-ventilated mine for the several hundred men working in it. The mere fact that the filth is hidden in darkness is no excuse for permitting a lack of sanitary precautions which we would not countenance one moment in the open light. We should provide our mines with better ventilation and more experts capable of analyzing the air.

Physicians in mining towns are without authority. It seems as though it might come within the province of this new bureau to make rules in regard to sanitary measures outside the mine as well as inside. Without chronic gas poisoning, typhoid, tuberculosis, hookworm, chronic nitroglycerin poisoning, and other preventable diseases, as well as fleas and chiggers, perhaps there would be no "miners' consumption."

Some physicians jump to the conclusion that the miner has general pulmonary fibrosis (anthracosis). As a matter of fact, the miner of to-day inhales very little dust, much less than the coal-handlers outside inhale, and he does not have evidences of catarrhal inflammation of the respiratory tract to the same degree as the men working in coal dust, who undoubtedly have anthracosis.

Other physicians account for the miner's pallor by the lack of sunshine, without considering real anemia. Many men have continued to work in dark but well-ventilated places other than mines for many years without developing anemia or marked pallor.

It is our duty to conduct some serious investigations in regard to the health of our miners. We should have more data at hand obtained from blood-examinations, post-mortem examinations, air analyses and other examinations which may give us exact information.

FATAL GUNSHOT WOUND

A. F. JOHNSON, M.D., GRESHAM, NEB.

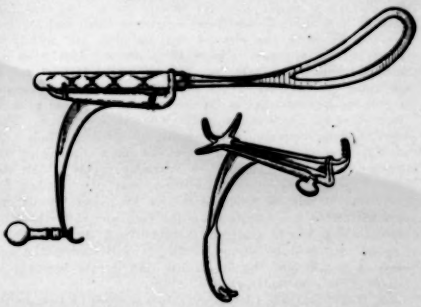
Oct. 21, 1910, I was called to see a boy about 10 years of age, who had been accidentally shot by a .44 caliber rifle, in the hands of a younger brother. The bullet entered the knee-joint from the anterior side, just internal to the patella, and passed completely through the joint, severing the popliteal artery. I arrived about ten minutes after the accident had occurred, but the loss of blood was so great, that the patient lived but a few minutes, never having regained consciousness. This emphasizes the necessity of instruction in the public schools regarding "first aid to the injured."

AXIS TRACTION HANDLE FOR OBSTETRIC FORCEPS

W. P. MEGRAIL, M.D.
WHEELING, W. VA.

The illustration shows a handle that can be readily and quickly attached to any obstetric forceps thereby making the latter a complete axis traction forceps, possessing the following advantages:

1. It is light, simple in construction, having only three parts, and very easy to apply to any forceps handle when axis traction is required.



Axis traction forceps. The figure at the top shows the handle attached to the ordinary obstetric forceps. Below on the right is a view of the handle detached.

2. It prevents the lock of the forceps from slipping and at the same time does not hinder the forceps blades from being opened or closed at the wish of the operator.

3. The handle alone is sufficient for most of the axis traction cases, but when a great amount of traction is required a "T" or cross-bar can be attached through the slot in the lower end of handle, making a larger grip.

4. This handle with the ordinary forceps that is found in the obstetric bag of every physician will prepare him successfully to terminate cases demanding a high forceps operation.

WARNING AGAINST THE INDIA-INK METHOD FOR THE SPIROCHÆTA PALLIDA*

JOSEPH H. BARACH, M.D.
PITTSBURG

Since recognition of the *Spirochæta pallida* as the probable cause of syphilis, now five and a half years ago, the staining methods, as has been said, are almost as numerous as the investigators who have studied it. Out of the many, there is one which has of late been especially prominent. I refer to the India-ink method first recommended by Burri,[1] and since by a number of other investigators.

This method, which consists in mixing the serum with diluted India ink on a glass slide and allowing it to dry in the air, is so easily carried out and requires so little technic, that its use, sooner or later, would have become quite universal. Recently, I used this method on a number of occasions, and I desire to relate my experience with it.

* Presented at the clinical and pathologic meeting of the Allegheny County Medical Society, Oct. 18, 1910.

1. Burri: Deutsch. med. Wchnschr., 1910, No. 38, p. 1762.

In one patient who had a typical case of syphilis, I found true spirochetes with the India-ink stain immediately. In another case, I saw the spirochetes first with the illuminated dark field and then with India ink. In neither of these specimens did I have occasion to make a prolonged search. My third use of this stain was in the case of an adult who presented an atypical case of varicella.

The diagnosis was later verified by Dr. B. A. Booth, physician to the Contagious Hospital.

Because of the possibility of syphilis in this case, I had taken a drop of serum from a vesicle and mixed it with India ink for examination. To my surprise I saw at first sight what I supposed were spirochetes. Closer scrutiny of these objects, however, made it dubious as to their actually being spirochetes. It then occurred to me that whatever they might be, before supposing them to have come from the serum of the vesicle, it would be well to examine the pure ink. This I did and was chagrined to find that the same wavy fibers were present

I exhibited the pure ink specimens to a number of laboratory workers, and all agreed that the non-critical and inexperienced observer might easily mistake these for spirochetes.

The ink used was Higgins' India ink, which is said to have the largest sale, and therefore would be the most likely one offered to buyers. Since then Dr. George A. Holliday, who is especially interested in this subject, and I, have examined all the obtainable inks that are sold as India ink and the results are here given.

Description.—The figures seen in the dark granular field of the India ink specimens correspond in appearance to spirochetes, bacilli, cocci and streptococci. Some fields, especially in the Higgins ink, were literally filled with these bodies, and even if *Spirochæta pallida* had been present, it would have been difficult to distinguish them. In most of the fibers the undulations are not large; some, however, especially in the darker fields in which the light refraction is greater, appear characteristic enough to be deceiving.

Inks Examined.—Higgins' Black India Ink: Three bottles all show long and short wavy fibers, and straight fibers resembling coarse bacilli; also structures resembling coarse streptococci.

Higgins' Violet Ink: Unsatisfactory. The ground is not sufficiently dark.

Higgins' Red Ink: Also unsatisfactory.

Hine (Paris) India Ink: In the dark areas of the field, the ink seems to crack as enameled surfaces do; and these cracks which appear as glistening wavy fibers against the black background may prove to be misleading. This ink contained no actual fibers.

Kallos' Indelible Drawing Ink: This is offered as an India ink although it is not a true India ink. In this I found streptococcus-like structures which at times appeared as wavy spirilla.

Collins' India Ink: This shows innumerable straight and wavy figures against the dark background that could be misleading.

Gunther: Wagner's India ink contains wavy fibers, some of which in length, diameter and undulations, bear a close resemblance to *Spirochæta pallida*.

A culture of Higgins' India ink on Loeffler's blood-mixture at the end of seventy-two hours was negative.

Since the accurate determination of the presence of *Spirochæta pallida* is at present already often complicated by the presence of *Spirochæta refringens*, to use the India inks would be to add one more source of error. The spirochete-like objects seen with these inks seem capable of assuming various shapes and sizes and while most of them, by the experienced microscopists, would not receive very serious consideration, some of the specimens that I have come across at a magnification of 1,300 diameters and higher, could delude even the expert.

I know a number of men who have occasion to diagnose many cases of syphilis, and who have been using the India-ink method for some time. These men do not consider themselves expert microscopists and they admitted that they may have made this error.

In the past, diagnosis of this disease has been based largely on full development of the clinical symptoms, but at present it is being frequently made on finding the spirochetes. For that reason, the greatest accuracy must be exercised, and the possibilities of error should be reduced to a minimum.

In consideration of the above findings, I offer this experience as a warning against the India-ink method by the non-expert and the general practitioner to whom it has been so strongly recommended.

4502 Fifth Avenue.

Therapeutics

HYGIENE OF THE MOUTH AND TEETH

The great importance of the preservation of the teeth is now recognized by all persons of intelligence. Crowding together of the teeth in the jaw and irregularities and depressions in the individual teeth are causes of dental caries. A direct and exciting cause is the lodgment of particles of food between the teeth and in the depressions on the surfaces. These particles of food undergo fermentation, with the production of bacteria and acids which attack and destroy the enamel of the teeth and then cause caries of the body of the teeth. Not all food is equally injurious in this way. It is chiefly the carbohydrates, the starches and sugars, which undergo this acid fermentation. The proteins, on the other hand, do not undergo the same acid fermentation and, consequently, they are less injurious.

It is evident, therefore, that in order to prevent dental caries it is necessary to prevent the stagnation or lodgment of the starches and sugars of the food in the mouth, and particularly in, on, or between the teeth.

The decomposition of the food lodged in the mouth commences very quickly, and therefore the rule of thoroughly brushing the teeth after each meal should be observed by every member of every household. The best instrument for this purpose is an old-fashioned tooth-brush made of hog's bristles. The bristles should not be so stiff as to injure the gums, and yet stiff enough to thoroughly remove all foreign matter from between the teeth. Neither a wooden (the best toothpick) nor a quill toothpick, nor silk floss, nor a napkin or towel, nor a rubber tooth-brush can accomplish this purpose nearly so well as a tooth-brush of bristles.

Even with the greatest care it is extremely difficult to keep the teeth entirely clean, and the majority of people are careless in the care of their teeth. Consquently, it is of great importance to arrange the food so as to diminish the tendency to the lodgment of the starches and sugars of the food between the teeth. These deposits are often caused by eating foods in a soft, moist, and mushy condition, and especially by eating them at the end of the meal. On the other hand, there is less tendency to this stagnation of the food around the teeth if the food eaten is dry, fibrous, and coarse, so as to require prolonged mastication. Incidentally this prolonged mastication of hard foods, in children, tends to strengthen

the teeth and develop the jaws, so that they become larger and broader, affording more room for and less crowding of the teeth.

Of course the question of dietetics is one which can not be settled offhand. A food which is advantageous from one point of view may be most undesirable from another. To speak concretely, and having in mind only the prevention of dental caries, the foods to be eaten not too frequently are the soft, mushy farinaceous foods (especially if loaded with sugar), and candy. Raw fruits and salads, dry toast and stale bread with butter, vegetables, if cooked so that they are dry and require chewing, fish and meats of all kinds, including poultry, are better for the teeth. Even young children, after they have commenced to cut their teeth, should be given crusts of bread, or dry toast, and later other forms of solid food, which require chewing, to take the place of milk and gruels and various mushy foods on which many children are fed far longer than is beneficial for them. Other factors concerned in the production of caries of the teeth besides inadequate cleanliness and too soft food, are the general nutrition and the character of the internal secretions, *i. e.*, the secretion of the ductless glands. The teeth need certain inorganic substances properly metabolized to keep up their perfect health and growth. If these substances, probably largely phosphates, are insufficient, the teeth tend to decay. Such an insufficiency is probably always more or less present during pregnancy.

Another frequent cause of dental caries is the improper care or lack of care which the mouth and teeth receive during acute illness. A prolonged diet containing insufficient salts is also a predisposing cause of dental decay.

It is astonishing to what a degree the mouths of many patients are neglected, a neglect which contributes, in part at least, to the accumulation of a thick, dry coating on the tongue, and the thick, sticky, offensive masses of so-called sordes on the gums and in and between the teeth. When the patient is lying in bed, is being fed chiefly on milk and soft foods, and is not allowed to talk, there is much greater need than during health of systematic care of the mouth. The nurse should attend to this, and the physician should see that this part of her work is not neglected. In fact, except when a patient is moribund, the condition of the patient's mouth is an indication of the ability of the nurse. Frequent wiping of the teeth, gums, and tongue with a piece of cotton held in a pair of forceps, and saturated with an alkaline solution, containing 20 per cent. of glycerin, will contribute greatly to the comfort and welfare of the patient.

To whatever the severe illness is due, the greater the weakness, the higher the temperature, and the more abnormal the mental condition, the greater attention the mouth requires. The mouth should be rinsed several times a day with warm water to which has been added a little common salt, tincture of myrrh, alcohol, or a little cologne water, to stimulate the secretions. When there is a tendency to bleeding from the gums or lips, they should be rubbed twice a day with a soft cloth bearing powdered boric acid. In patients who are partially unconscious, the mouth should be examined several times daily. Little ulcerations should be treated with boric acid or a saturated potassium chlorate solution, or perhaps better with swabs soaked in peroxid of hydrogen solution. Fissures at the corners of the mouth will generally heal with boric acid and glycerin, boroglycerid or a pure petroleum fat. If the patient sleeps with the mouth open and the tongue tends to become dry, it should be frequently moistened with a 20 per cent. solution of glycerin and water. A drink of water should be offered the patient at least once an hour, and if the individual can take but a sip at a time, it should be offered even more frequently, unless he is quietly sleeping. A piece of ice covered with thin linen or gauze and applied to the mouth and tongue is often grateful to the patient.

The things to be remembered in the care of the mouth and teeth may be summed up as follows:

1. Theoretically water should follow the milk of bottle-fed babes.

2. A soft cloth should be thoroughly moistened with a mild alkaline wash and frequently applied over the first little teeth of the infant.

3. No candy, or at least but little, should be given to young children, and as soon as their teeth have erupted they should have the more crunchy or granular cereals, and not so much of the soft, gelatinous cereals.

4. The teeth should be regularly cleaned by a dentist, at least once in six months.

5. All cavities, even small, should be filled, at least with temporary filling, so that the first teeth may be preserved as long as possible in order to develop the jaws properly, so that the second teeth need not be crowded.

6. The teeth of children and adults should be thoroughly brushed at least twice a day, better three times, with a proper brush, and, at least in the morning, with a tooth powder that is not too soapy, and at night with an alkaline mouth wash.

7. All persons, growing children or adults, should have all the tartar that may become deposited cleaned from their teeth once in three months, and examinations of the teeth once in six months will disclose cavities before they have become large ones.

8. If the teeth tend to degenerate and cavities quickly form, the trouble is generally with the nutrition, and the person is often deficient on bone-forming salts. Such patients should receive lime salts, phosphates, glycerophosphates, and iron.

There is such a large choice of official preparations to meet this need that there is no necessity for prescribing proprietary preparations. In fact, the number of preparations of the United States Pharmacopeia and National Formulary is too large. They may be enumerated as:

Calcii hypophosphis, dose 0.50 gram (7½ grains).

Syrupus hypophosphitum, dose 1 to 2 teaspoonfuls:
This contains calcium hypophosphite, potassium hypophosphite, sodium hypophosphite, dilute hypophosphorus acid, sugar, tincture of fresh lemon-peel and water.

Syrupus hypophosphitum compositus, dose 1 to 2 teaspoonfuls:
This contains calcium hypophosphite, potassium hypophosphite, sodium hypophosphite, ferric hypophosphite, manganese hypophosphite, quinin, strychnin, sodium citrate, dilute hypophosphorus acid, sugar and water.

Elixir calcii hypophosphitis (N. F.).

Liquor hypophosphitum (N. F.).

Liquor hypophosphitum compositus (N. F.).

Syrupus calcii hypophosphitis (N. F.).

Syrupus calcii et sodii hypophosphitum (N. F.).

Syrupus phosphatum compositus (N. F.).

Elixir glycerophosphatum (N. F.).

Elixir hypophosphitum (N. F.).

Elixir hypophosphitum cum ferro (N. F.).
Elixir sodii hypophosphitis (N. F.).
The dose of any one of these is from 1 to 2 teaspoonfuls.

The best iron preparations for this purpose are: tinctura ferri chloridi, 1 or 2 drops in a wineglass of water or fresh lemonade, three times a day, after meals; ferrum reductum, 0.05 gram (1 grain), in capsule, three times a day, after meals,; ferri oxidum saccharatum (*Eisenzucker*), tablets, each 3 grains, 1 three times a day, after meals.

If the teeth are delayed in eruption and do not grow properly in young children, the dried extract of the thymus gland is of value. One of the tablets is given three times a day; it is best taken between meals, crushed with the teeth, and swallowed with water.

If the child as a whole does not grow well, even if not a cretin or in any way like a cretin, small doses of thyroid extract (glandulæ thyroideæ siccæ) in dose of 0.03 gram (½ grain) once a day, is of value, and this dose is sufficient.

In adults when the teeth tend to disintegrate perhaps the best treatment is the elixir of glycerophosphates of lime and soda, and it is also well to administer this preparation, or something similar, one or more times a day, to a pregnant woman, at least during the last months of pregnancy.

9. The care of the mouth during severe illness should be on the lines above described.

10. The proper care of the teeth will prevent Rigg's disease, one of the most troublesome and painful things that can happen to the jaws, meaning a retraction of the gums and exposure of the dentine of the teeth; proper care will also prevent that bane of older individuals, *viz.*, pyorrhea alveolitis.

11. The treatment of pyorrhea alveolitis must be strenuous and persistent. There is no excuse for its presence, and it can be eradicated. The treatment is persistent cleanliness and antisepsis, the same as in ozena. There is no excuse to-day for the horrible stench perpetrated by patients who suffer from ozena. The same is true of the nastiness of the breath of these pyorrhea patients, to say nothing of the danger to themselves of infection from germs harbored in the mouth. The treatment is a frequent use of a mouth wash of 1 part of peroxid of hydrogen solution to 4 or 5 parts of warm water, and then the persistent use of an antiseptic alkaline mouth wash and tooth paste or tooth powder after the peroxid of hydrogen has eradicated and removed the pus.

12. Before any serious operation is done, especially about the mouth, and when there is no emergency, the teeth of the patient should be cleansed, cavities at least temporarily filled, and pyorrhea alveolitis, if present, cured, or at least properly kept in subjection.

GOOD SENSE IN PRESCRIBING

℞	Gm.	
Acetanilidi	2	(ʒss)
Caffeinæ sodio-benzoatis	30	(gr. v)
Pulveris aromatici	1	(gr. xv)

M. div. in chart. No. VI.
Sig.: As directed.

The evident object of this prescription is either as an antipyretic or an analgesic, or possibly as a remedy for headache. If to reduce temperature or as an analgesic, it has been shown that caffein does not reduce the toxicity of acetanilid, but rather adds to it. If it is desired to render acetanilid less of a cardiac depressant, an alkali like sodium bicarbonate is the drug that should be combined with it, and not caffein. Therefore, the only excuse for caffein in combination with acetanilid, phenacetin or antipyrin is when these drugs are used to stop a headache, caffein being of benefit in some headaches.

The best caffein, unless an effervescing preparation is desired, is the citrated caffein of the Pharmacopeia, caffeina citrata. This contains 50 per cent. of caffein, while the caffeinæ sodio-benzoas of the National Formulary contains about 48 per cent. of caffein. The latter is a more expensive preparation and weaker than the citrated caffein, and the dose is nearly double that of the citrated caffein. There is no difference in the activity in equivalent doses of these two preparations of caffein. The main object of all prescribers should be to use the same simple drug to meet the same specific indication; to require that the Pharmacopeia shall be small, and that every drug be assayed, pure, and absolutely up to standard. This can not be expected and can not be accomplished if the Pharmacopeia represents a large number of preparations of each individual drug.

The official aromatic powder contains cinnamon, ginger, cardamom, and nutmeg. There could be little object in putting these aromatics into a stomach when an antipyretic action is desired of acetanilid. In other words, there is positively no reason for it in this particular prescription, although the dose is so small.

The directions above do not state how frequently the acetanilid is to be administered. The dose, about 0.33 gram (5 grains) is now considered very large, and certainly should not be repeated more than once in the same twenty-four hours. Two or even one grain of acetanilid, repeated two or three times at three-hour intervals, will act as satisfactorily and is much safer than a large dose of this drug.

As life is short and the age rapid, unnecessary Latin should not be used in a prescription; we have not time to write it. If the Latin word *"divide"* is used, it must be *"divide in"* followed by the accusative, divide into. It is much better to use the imperative word *"fac"* followed by the accusative, as "mix and make" so many powders. It is entirely unnecessary to say "No." or *"in numero"*; if so many pills or powders are ordered it must of necessity be *in numero*, therefore it is unnecessary to say so. If the metric system is to be used, it is absurd to order 6, 7, 8, 11, 12, or 13. If more than 1 or 2 are required, let the number ordered be 5, 10, 15, or 20; in other words, absolutely smooth and proper exponents of the decimal system.

If a simple prescription is required as an antipyretic, the following is better:

℞	Gm.		
Acetanilidi	50		gr. viiss
		or	
Sodii bicarbonatis	2		gr. xxx

M. et fac chartulas 5.
Sig.: A powder, with water, once in three hours, if needed.

Or, it may be ordered as follows:

℞	Gm.		
Acetanilidi	50		gr. viiss
		or	
Sodii bicarbonatis	1		gr. xv

M. et fac capsulas siccas 5.
Sig.: A capsule, with water, every 3 hours, if required.

If immediate, rapid action is desired, any capsule can be uncapped just before it is taken into the mouth.

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[For other information see second page following reading matter]

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DYSPEPSIA AND THE PROPHYLAXIS OF CANCER OF THE STOMACH

The word "dyspepsia" used as a scientific term in its etymologic sense has long since been relegated to the realm of the obsolete. It is still applied occasionally, however, in a loose way to that miscellaneous aggregation of symptoms and distresses to which patients allude as "stomach trouble." It is becoming better understood from advances in the study of the chemistry of digestion and the secretions, as well as from the pathologic findings in the alimentary tract and the associated organs of digestion as revealed at operation and at autopsy, that most so-called stomach troubles have their seat or origin in the liver, the gall-bladder and ducts, the pancreas, the appendix, or in even more remote portions of the digestive tube, and that even real lesions in the stomach itself may be secondary to pathologic conditions far removed from that viscus. An understanding of this fact is important from the standpoint of prophylaxis, as well as from that of diagnosis and treatment. The futility will at once be seen of treating by measures directed to the stomach a hyperchlorhydria, for instance, that is due reflexly to a diseased appendix, or an obstruction of the pylorus due to spasm induced by a hypersecretion having its exciting cause in the gall-bladder. Gastro-enterostomies performed for the relief of such stomach conditions prove useless.

The influence of the appendix in the production of gastric disorder has been recognized and referred to in the writings of many authors. H. J. Paterson,[1] after seeing W. J. Mayo operate in two cases, removing the appendix when all the symptoms pointed to gastric or duodenal ulcer, which, however, was not present, began a study of these cases, and reports the histories of twenty-four patients operated on by him, each of whom had all the clinical symptoms of one or other of these types of ulcer. The removal of the diseased appendix in each instance relieved all the symptoms.

Fenwick[2] in a study of the clinical significance of gastric hypersecretion, states that he had noted that deaths from appendicitis occurred in patients with a peculiar type of hypersecretion, and the connection was suggested to him by Mayo. Fenwick even goes so far as to state that the character of the trouble in the appendix is indicated by the character of the gastric secretion, an active irritation being indicated by hypersecretion, while on the other hand, torsion, thickening, cystic dilatation or adhesion are followed after a time by a type of chronic gastritis characterized by flatulence, nausea, anorexia, excess of mucus and absence of free hydrochloric acid. Fenwick further says that a continuous flow of hyperacid gastric juice, reflexly produced by disease of some other organ—the appendix, pancreas, gall-bladder, tuberculosis or new growth of the cecum—always excites severe inflammation of the stomach and is liable to be followed by ulcer of that organ or the duodenum. It also sooner or later gives rise to spasm of the pylorus, causing pain and intermittent obstruction, which may lead to a diagnosis of cancer.

MacCarty[3] has studied the relation of the diseased appendix and gall-bladder to stomach trouble or dyspepsia, and finds that operations for gastric symptoms which have existed for years may reveal no lesion of the stomach other than aberrant secretion, but that one of the organs already named will be found in fault. Graham and Guthrie[4] cured eighty-nine out of 115 patients with gastric symptoms by appendectomy, and secured great or moderate improvement in twenty others. Cannon[5] by the injection of irritants into the large intestine produced retardation of the digestive juices, and Roger[6] produced erosions of the gastric mucosa by injections of beta-naphthol into the cecum.

Pilcher[7] in a study of 271 cases of achlorhydria gastrica hemorrhagica, a complex of gastric symptoms usually described as chronic gastritis, accompanied by hemorrhage, found that in 156 the onset seemed to bear an immediate and direct relation to various diseases. Thirty-eight of these followed infectious diseases, twelve accompanied circulatory disturbances, fourteen were post-operative, the operations having been done for various conditions, and twenty accompanied diseases of the ductless glands. In 100 of these patients operated on, the trouble in thirty-six was found to be due to appendicitis, in thirty-two to gall-bladder trouble, in sixteen to gall-bladder and pancreatic disease combined, in twelve to appendicitis and gall-bladder involvement combined, and in sixteen the stomach alone was found diseased. In twenty-four there was pylorospasm—in eighteen with appendicitis and in six with gall-bladder involvement.

1. Paterson, Herbert J.: Appendicular Gastralgia, or the Appendix as a Cause of Gastric Symptoms, Proc. Roy. Soc. Med., April, 1910, Surg. Sec., p. 187.
2. Fenwick, W. Solfan: The Clinical Significance of Gastric Hypersecretion and Its Connection with Latent Disease of the Appendix, Proc. Roy. Soc. Med., April, 1910, Surg. Sect., p. 177.
3. MacCarty, William Carpenter: Pathology and Clinical Significance of Stomach Ulcers, Surg., Gynec. and Obst., May, 1910, p. 449; The Pathology of the Gall-Bladder and Some Associated Lesions, Ann. Surg., May, 1910, p. 651.
4. Graham, Christopher, and Guthrie, Donald: The Dyspeptic Type of Chronic Appendicitis, THE JOURNAL A. M. A., March 19, 1910, p. 960.
5. Hedblom and Cannon: Am. Jour. Med. Sc., October, 1909; quoted by MacCarty.
6. Roger: Arch. de méd. expér., 1906, xviii, 51; quoted by MacCarty.
7. Pilcher, J. T.: THE JOURNAL A. M. A., Nov. 19, 1910, p. 1790.

In two cases ulcer of the stomach was found. Various other conditions were also present.

The achlorhydria, with its sequelæ, is attributed by Pilcher to reflex inhibition of secretion by disease elsewhere, the invasion of the stomach by bacteria, chiefly the streptococcus, producing irritation and erosion, with hemorrhage. Accompanying these erosions were found round-cell infiltration and engorgement of the capillaries.

Thus it will be seen that either hypersecretion or hyposecretion of hydrochloric acid may be due to the same remote causes in different patients, both leading to pylorospasm, irritation, erosion, infiltration and ulcer.

Finally, Wilson and MacCarty[8] have found in an examination of 230 cancers of the stomach that 71 per cent. had their origin in gastric ulcer.

If we accept the findings above noted, the conclusions to be drawn would be that dyspepsia or stomach troubles, functional or otherwise, in at least a number of instances have their origin or seat in some remote though functionally related structure or organ, reflexly producing hypersecretion or hyposecretion, with accompanying chemical or bacterial irritation, hemorrhage, ulcer and finally, perhaps, cancer; and that the treatment of stomach conditions would require a careful search for pathologic conditions in these more or less remote structures, looking to the stomach itself last, perhaps, for the original source of the trouble. Accepting the writers' premises, an important bearing of these facts would be that the prophylaxis of ulcer and cancer of the stomach would lie in the recognition and cure in their early stages of diseases of the appendix, gall-bladder and pancreas, as well as of other still more remote conditions that produce reflexly the symptoms recognized by the patient as stomach trouble or dyspepsia.

WILL THE WISCONSIN PURE FOOD LAW BE EMASCULATED?

Our readers will remember that last summer[1] their attention was called to the sane attitude of the Wisconsin health authorities on the subject of truthful labels on food products. The courts of that state have decided that the manufacturers of glucose cannot sell their product in Wisconsin under the euphemistic but misleading term, "corn syrup." To "get even" the glucose trust has boycotted that state and glucose cannot be had of the jobbing grocers of Wisconsin. These grocers, naturally, feel aggrieved and have passed resolutions against what they term an unwarranted loss of trade.

In an editorial entitled "Making Food Laws Ridiculous," *Leslie's Weekly* waxes indignant over what it calls "the foolish, restrictive legislation of Wisconsin," which requires that manufacturers shall tell the truth on the label. Says *Leslie's:*

> **"It seems inconceivable that the people of Wisconsin should tolerate such an imposition. . . . We are not surprised to note that the Wisconsin press enters a bitter protest against any interference, under the guise of pure-food legislation, with the sale of wholesome and popular articles of food."**

We, too, "are not surprised to note" that *Leslie's Weekly* looks on the restrictions due to requiring that the truth be told, as an "imposition." When we remember that the wide-spread fake "Viavi" was the subject of a "special article," and that the Alexander cancer cure[2] received a similar write-up in *Leslie's Weekly*, we naturally expect that publication to come to the defense of those who are attempting to discredit and destroy the pure food laws. Neither are we "surprised to note" that some Wisconsin newspapers are entering a protest! In the previous editorial we said:

> "For the past few years 'Karo'—a trade-marked name for glucose flavored with syrup—has been heavily advertised all over the country. We may now expect the advertising patronage of the glucose trust to be withdrawn from the state of Wisconsin in the hope that the newspapers of the state will bring pressure to bear on the state legislators to amend and emasculate the present law. It is to be hoped that Wisconsin newspapers in this instance will not sell their birthright of journalistic freedom for a paltry mess of advertising pottage."

The pottage will probably prove tempting in some cases, a consummation that the glucose manufacturers doubtless wish and expect. The cold facts of the case are that the profits to be made in selling glucose at real syrup prices are enormous—so great, that if no other question were involved, it would be, as the Wisconsin Supreme Court has decided, "a fraud to sell this article to the public under a name that induces the belief that it is procuring a syrup produced in the usual way . . ." These profits the glucose trust is willing to share with the newspapers through the medium of an advertising campaign, doubtless with the idea that few publications will tell unpleasant truths about the products whose advertisements they carry. It now remains to be seen whether the Wisconsin press will stand for the interests of their constituents at the expense of a loss of revenue. We are optimistic enough to believe that a state which has enacted, enforced and interpreted a statute such as the Wisconsin pure food law will not be found wanting in editors and publishers to defend it.

It is to be remembered that if the other states of the Union would insist on the Wisconsin standard of truthfulness in the labeling of food products, those manufacturers who fail to recognize honesty as a moral obligation would be brought to acknowledge it as a legal necessity.

In summing up its case against the Badger state's pure food law, *Leslie's Weekly* asks: "What's the matter with Wisconsin?" To answer this question in part, it might be said that there are three things, in particular:

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8. Wilson and MacCarty: Am. Jour. Med. Sc., 1909, cxxxviii, 846.
1. THE JOURNAL A. M. A., July 2, 1910, p. 33.

2. See editorial published in THE JOURNAL A. M. A., July 6, 1907, p. 48.

First, Wisconsin has a pure food law that is designed to protect the public; second, it has a food commissioner who believes that this law should be enforced and who enforces it, and third, it has a supreme court which interprets the law in the interests of the public instead of for the benefit of the glucose trust. For all of which the state is to be complimented, the protests of *Leslie's Weekly*, the jobbing grocers, and a venal press, to the contrary, notwithstanding. "What's the matter with Wisconsin?" Wisconsin's all right!

SAND-FLY TRANSMISSION OF PELLAGRA

On behalf of the Pellagra Investigation Committee[1] Dr Sambon recently visited the Italian provinces of Bergano, Milan, Brescia, Padova, Rome and Perugia, and reports that in no instance in which he came in contact with the disease did he find evidence that maize was a causal factor. Endemic centers have existed in these provinces for over a hundred years. It does not occur in the towns, but only in certain parts of the rural districts where a sand-fly is found. No actual parasite was discovered but the geographical distribution and general resemblance of the disease to other protozoal infections pointed strongly to this sand-fly origin. A parallelism is suggested between pellagra and yellow fever, the parasite of which has never yet been discovered, though its insect-borne nature is no longer denied.

Dr. Sambon asserts that he proved to his satisfaction, (1) that the endemic centers of pellagra in Italy have remained the same since the disease was first described; (2) that the season of recurrence of pellagra coincides with the season of the appearance of the full-fledged sand-fly, even to the extent that if the spring is early or late, the sand-fly is early or late in appearing, and pellagra cases are correspondingly early or late in their appearance; (3) that in centers of pellagra infection whole families are attacked at times simultaneously; (4) that in non-pellagrous districts the disease never spreads to others with the advent of a pellagrin from a pellagrous district; (5) that in the case of a family which has moved from a pellagrous to a non-pellagrous district, the children born in the former are pellagrins, while the children born subsequent to removal to a non-pellagrous district do not develop the disease; (6) that the disease is not hereditary, although infants a few months old may become infected, especially if taken to the fields in pellagrous districts, where their mothers work during the season when sand-flies are in evidence; (7) that pellagra is not contagious, but is transmitted to each individual by an infected sand-fly.

The evidence on which Sambon supports his views is strong, but more will be required to satisfy the profession that this covers the whole case. For example, it is necessary to know whether or not the species of sand-fly which Sambon considered the conveyor of the infection, or one closely enough allied to it to be similarly credited with carrying the disease, exists in this country; and if so, whether or not the occurrence of pellagra here corresponds with the distribution of this sand-fly.

1. Nature, Oct. 17, 1910; and Policlinico, Rome, June 19, 1910, abstracted in THE JOURNAL, July 23, 1910, p. 361.

Current Comment

CONSISTENCY

Medical journals in their attitude toward the American Medical Association's campaign in the interests of cleaner and saner drug therapy may be grouped in one of three classes: first, those whose editors and publishers are not in sympathy with the propaganda for reform and whose editorial and advertising pages show that "anything goes" in the way of proprietary medicines; second, those whose editors and publishers both are in hearty accord with the fight for cleaner therapeutics and whose pages—editorial and advertising—reflect the attitude of the men in charge; third, those whose editors favor the propaganda for reform but whose business managers or publishers will have none of it. The inconsistency of this last class of journals does more harm to the cause so half-heartedly espoused than does the frank opposition of those whose attitude is avowedly unfriendly. An example of this journalistic anomaly is described in the current issue of *Colorado Medicine*—a medical journal, by the way, whose pages are clean from cover to cover. Says the editor:

> In the October number of the *Vermont Medical Monthly*, the official organ of [but not owned by] the state society, appears the annual address of the president, Dr. Walter B. Hayden. Reviewing the progress of medicine during the past decade, he enumerates among other things the great service of the Council on Pharmacy and Chemistry in exposing fraudulent proprietary medicines, quacks and fraudulent institutions.
>
> "It is unfortunate," he says, "that a credulous public does not recognize the faker, nor realize the danger of his nostrums; it is equally unfortunate that a careless profession does not expose the faker and reveal the worthlessness of his mixtures. . . . Can we not lend a hand in this modern crusade?"
>
> Dr. Hayden, we can and will. Sir, we are with you heart and soul. The medical profession of Colorado reaches out a hand, and pats you on the back. You can count on us to the last drop of blood. If there is one thing that stirs our nature to its vasty deeps it is a gallant battle for the right. But, stay! What is this that confronts us in your advertising columns? Why, no others than our old friends, Fellows' Syrup of Hypophosphites, California Fig Syrup, Gray's Glycerin Tonic Comp., Sal Hepatica, Ergoapiol, Glycothymoline, Katharmon, Hayden's Viburnum Compound and, last of all, Pepto-Mangan (Gude). We don't mind the smell, Dr. Hayden, but it hurts our eyes. If the good old puritanical New England conscience can stand such company in its battle for the right, count us out.

Well said, and timely. Hybrids are unlovely things, even in medical journals. One can at least admire the consistency—whatever may be thought of the morals—of those journals which frankly sell both advertising and editorial pages to the proprietary interests. But those publications which are "neither fish, flesh, nor fowl nor good red herring" are apt to inspire in one a feeling far removed from confidence or respect.

RED CROSS SEALS

Three years ago, the National Association for the Study and Prevention of Tuberculosis adopted the plan of raising money by the attractive method of selling Red Cross stamps during and preceding the Christmas holidays. The plan worked out beautifully and resulted in good financial returns. It was followed again last year, and will also be used this year. On account of the occasional inadvertent use of Red Cross stamps in place of postage stamps, the name has been changed this year to Red Cross seals.[1] The Post-Office Department has given permission for their sale in all post-offices, and they may be purchased in various other public places in every state.[2] For this season the ambition of the promoters is the sale of one hundred million seals. This ought to be accomplished, and will be if the public can be aroused; it is merely a mite for the many. The good done with the money raised by this means is only one of the benefits to be gained. A no less important good result will be the calling of the attention of millions to the fact that there is a great white plague, and, moreover, that tremendous efforts are being made to get rid of it. Thus, it will not only enlist the sympathy and support of those who are already interested in the movement, but also the interest and support of those who have never given the matter any thought whatever. It will fix the attention of the whole public on the work, and from an educational viewpoint will be of immense importance. To repeat, the idea is a beautiful and a noble one, and should be encouraged. Undoubtedly physicians will realize their opportunity, and will cooperate in every way in encouraging the sale of these Red Cross seals.

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EDUCATION BY PICTURES

Lantern-slides, illustrating the anatomy and life-history of the hookworm and the methods of preventing hookworm disease, have been prepared[3] by the Hygienic Laboratory of the United States Public Health and Marine-Hospital Service, to be loaned to medical societies, colleges, school-teachers' associations, women's clubs and other organizations interested in public health work. The moving-picture show, as a means of teaching the dangers of impure milk, has already been commented on.[4] The Edison Manufacturing Company, of Orange, N. J., has just announced the preparation of a new film of educational value, which has been produced in cooperation with the National Association for the Study and Prevention of Tuberculosis and the American National Red Cross. This film is entitled "The Red Cross Seal" and shows graphically the actual conditions that breed tuberculosis, the work of the district nurses, of the open-air camp, and of the Tuberculosis Association and the life of the tenement house district. The possibilities of such means of educating the public are practically unlimited. "Men are but children of a larger growth." Modern psychology has clearly demonstrated that the impression made by the picture is much more forcible and lasting than that produced by the spoken word or the printed page.

1. The seal is illustrated in the department of General News in this issue.
2. Seals may be obtained in quantities from all state Red Cross offices, from most state tuberculosis societies, or from the National Association for the Study and Prevention of Tuberculosis, 105 East Twenty-Second Street, New York.
3. As further explained in General News, this issue.
4. The Drama of Sanitation, THE JOURNAL A. M. A., Aug. 13, 1910, p. 602.

POLIOMYELITIS IN CUBA

The occurrence in 1909 of an epidemic of 140 cases of poliomyelitis in one province in Cuba, with smaller epidemics in others, has demonstrated that geographic situation is a factor of secondary importance in the distribution of the disease. In most descriptions of the affection it has been called a disease of temperate or cold climates, but the incidence of epidemics in Cuba shows that the tropics are not exempt. In a study of the epidemiology of the disease in Cuba, Lebredo and Recio[1] find that the special biologic conditions necessary for the life of the infectious agent are not modified in the tropics, and that it occurs in the same summer months as in the more northern countries, beginning in May or June, becoming intense in August and September, decreasing in October and becoming rare in November. The disease had not heretofore existed in epidemic form in Cuba, and the uniform manner of its appearance and evolution led Lebredo and Recio to conclude that all cases constituted a single epidemic group. A map of the affected district showed its special dissemination along the railroad line. In endeavoring to establish the origin of the epidemic the investigators were led to believe that since this epidemic followed so closely the extensive epidemic in the United States, in 1907 and 1908, particularly in New York City, with which port Cuba has extensive commercial and other relations, they were justified in assuming that the Cuban epidemic originated from that in the United States.

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STREET ACCIDENTS IN LONDON

We in this country are reputed to hold life cheaply and to be more careless than Europeans in safeguarding life and limb in street traffic in large cities, in industrial establishments and on transportation systems. This may be true, but the fact must not be overlooked that street traffic in London, though admitted to be handled better than in any other large city, is far from being free from accidents. This is apparent from the statistical report of the London County Council. There it is stated that 17,000 persons were injured in 1908 by street accidents within the metropolitan police district, and that 326 were killed outright. Advances in civilization and multiplication of conveniences and luxuries have their accompanying penalties. Motor vehicles, including motorcycles, caused 6,300 of the accidents and 159 of the deaths, motorcycles being chargeable with two of the deaths. It will thus be seen that this country has no monopoly of reckless drivers of motor and other vehicles, and also that a certain number of accidents will inevitably happen in the crowded centers of population with their tremendous street traffic, despite the employment of almost any degree of human care and foresight.

1. Lebredo, M. G., and Recio, M.: Acute Anterior Poliomyelitis: Cuban Epidemic of 1909, Sanidad y Beneficencia, 1910, iv, 328.

Medical News

CALIFORNIA

Nurses Avert Panic.—The intrepidity and quick action on the part of the nurses of the Nauheim Hospital, Oakland, averted a panic, when the oil tank and water tower of the hospital were destroyed by fire recently. The patients were removed without casualty.

Hospital Association Election.—The board of directors of Santa Ana Hospital Association have organized and elected the following officers: president, Dr. Charles D. Ball; vice-president, J. M. Raugh; secretary, Dr. Howard S. Gordon, and member of the board of control, Dr. John Wehrly.

Care for Tuberculosis Patients.—A tract of 40 acres of the Tokayana ranch near Colfax has been purchased and will soon be occupied by a colony of tuberculosis patients. Forty cottages are being erected, and it is expected that 100 more will be built later on. This will be known as the Tate Colony and will be under the charge of Dr. Robert A. Peers, Colfax. ——The Supreme Court of the Independent Order of Foresters has purchased 40 acres of land in Lopez Canon near San Fernando as a site for a sanatorium for tuberculosis patients who are members of the order. It is expected the new institution will be ready for operation January 1.

Personal.—Dr. Henry D. Brusco, San Francisco, has been appointed a member of the board of health, vice Dr. Thomas B. Roche, resigned.——Dr. Oscar Stansbury, Chico, a member of the State Board of Health, has been granted a six-weeks' leave of absence, and will represent the board in making observations of the sanitary conditions in the Canal Zone and Cuba.——Dr. Charles H. Rowe has been appointed a member of the board of health of Oakland, vice Dr. Alonzo S. Larkey.——Dr. Chester W. Bryant, Redding, was seriously injured by being thrown from his carriage near Ingar recently. ——Dr. E. Jamieson, Grass Valley, announces his intention to retire.——In the case of Robert Thompson, alias James Grant, San Francisco, charged with the murder of Eva Swan by a criminal operation, the jury is said to have returned a verdict of murder in the second degree, November 4.

ILLINOIS

Personal.—Dr. William M. Harsha, Chicago, has been appointed a member of the surgical staff of St. Luke's Hospital. ——Dr. James W. DuComb, Beckemeyer, has been appointed a member of the board of pension examiners of Clinton County, vice Dr. Thomas E. Alsop, deceased.

State Board Convictions.—The secretary of the Illinois State Board of Health reports that Walter Vogel, a "chiropractor," was found guilty November 18, of practicing medicine without a license. The trial took place at Savanna before the Carroll County Circuit Court, and a fine of $200 was imposed. This is the third judgment against Vogel, making a total of $500 in fines assessed against him.——The secretary also reports the conviction on November 17, of Minnie Meyer, a fortune teller located at 2142 W. Harrison Street, Chicago, for practicing medicine without a license. This case was heard in the Municipal Court of Chicago and the evidence disclosed that the fortune teller had given medicine to women to produce abortions. The trial judge, Hon. John G. Scovel, instructed the attorney for the state board to call the attention of the state's attorney of Cook County to the evidence as submitted, as a basis for criminal prosecution.——Nathan Ginsburg, 1587 Milwaukee Avenue, Chicago, is also reported as having been convicted by a jury and fined $100 and costs, November 14, in the Municipal Court of Chicago, for practicing medicine without a license. This man took a short course at some "optical school" and received a diploma conferring on him the degree of "doctor of optics." The testimony showed that "he had administered medicine for 'nervousness' and had used a card styling himself 'Dr. M. Ginsburg, eyesight specialist and defractionist.'"

INDIANA

Prophylaxis Against Blindness.—Dr. George F. Keiper, Lafayette, chairman of the committee of the Indiana State Medical Association on Ophthalmia Neonatorum, advises that the note in THE JOURNAL, November 5, conveyed a wrong impression regarding the action of the committee. There was merely an informal meeting of three members to talk over matters that the chairman had in mind, and on which he sought advice. The committee is not yet ready to speak about the law, and will not be ready until the representatives of all schools of medicine have discussed the matter in joint meeting. The laws adopted by several states on this subject place no responsibility at all on the physician; the responsibility rests with the midwife or nurse to report to the health officer or legally qualified practitioner within six hours after a baby's eyes become sore, that the condition exists.

MARYLAND

Personal.—The Lonaconing Board of Trade has organized with Dr. James O. Bullock as president, and Dr. Henry M. Hodgson as vice-president.——Dr. Thomas W. Koon has been appointed city physician of Cumberland.

Society Meetings.—Wicomico County Medical Society, at its annual meeting, November 17, elected the following officers; president, Dr. Louis W. Morris; vice-president, Dr. J. McFadden Dick; secretary, Dr. Harry S. Wailes; treasurer, Dr. Harry C. Tull, all of Salisbury; censors, Drs. J. H. Lynch, Quantico; Harry C. Tull, Salisbury, and John M. Elderdice, Mardela Springs; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. George W. Todd, Salisbury, and alternate, Dr. Lawrence C. Freeney, Pittsville.——Frederick County Medical Society has elected the following officers: president, Dr. Charles F. Goodell, Frederick; vice-presidents, Drs. Ira J. McCurdy, Frederick, and Morris A. Birely, Thurmont; secretary, Dr. Levin West, Brunswick; censor, Dr. Alvey J. Smith, Jefferson, and delegate to the State Medical Society, Dr. Thomas C. Routson, Buckeystown.

Baltimore

Personal.—Dr. Charles W. McElfresh is holding a physicians' conference at the University of Maryland Hospital every Thursday on the various aspects of diet.——Dr. J. Frederick Adams, while riding near his surburban home, was painfully injured by an accidental gunshot wound of the hip, inflicted by a careless hunter.

MICHIGAN

New Tuberculosis Infirmary.—The board of health of Grand Rapids has decided that the new diphtheria hospital shall be converted into an infirmary for the care of tuberculosis patients——The Chippewa County board of supervisors has appropriated $1,700 to establish a tuberculosis hospital.

New Harper Hospital.—Ground has been broken for the new six-story surgical building of the Harper Hospital, which is to cost $200,000 and will accommodate 200 patients. This is the first of the series of buildings of the new Harper Hospitals.

Court Decides Antituberculosis Dispute.—Judge Hosmer of the Circuit Court has decided that the incorporated society known as the Detroit Society for the Study and Prevention of Tuberculosis, must pay to the unincorporated society the $13,500 collected on "tag-day" and the books and records of the society.

Personal.—Dr. Harry W. Bradley, Saginaw, is reported to be critically ill with typhoid fever.——Dr. William S. Connery, Saginaw, coroner of Saginaw County, was thrown from his carriage, November 12, but was not seriously injured.——Dr. Oscar Le Seure, Detroit, underwent an operation at Grace Hospital, November 12.——Dr. William F. Hake, Grand Rapids, sustained painful injuries of the leg in an automobile accident, November 8.——Dr. William H. Marshall, Boyne City, has disposed of his practice and started for Europe.

The Prevalence of Small-Pox.—Serious conditions regarding small-pox appear to exist in northern Michigan, where an aggravated type of the disease is causing anxiety to the State Health Department and local health boards. As usual the unvaccinated are the sufferers. A serious outbreak of the hemorrhagic type is reported in Saginaw, where about 200 cases have thus far been reported. During October eighteen deaths occurred, and up to November 19, twenty deaths. The authorities are taking every precaution to control the disease, and at present only a few cases are developing, and these of mild type, as a result of compulsory vaccination and revaccination of the entire population, the quarantine of infected places, and the stoppage of trains at only one station in the city, where inspectors are placed to vaccinate and disinfect every individual leaving the city. A severe outbreak of the disease is reported from the Michigan Home for the Feeble Minded, Lapeer, where twenty-six cases and seven deaths have occurred. The home is strictly quarantined and a company of the National Guard of Michigan is stationed around the home to prevent the 150 employees, who are more or less panic stricken, from leaving. The condition is improving, the situa-

tion is being well-handled and no further trouble is anticipated.

Society Meetings.—At the annual meeting of the Ingham County Medical Society held in Lansing, November 8, Dr. Orrin H. Freeland, Mason, was elected president; Dr. Louis W. Toles, vice-president; and Dr. Samuel Osborn, Lansing, secretary-treasurer.——Schoolcraft County Medical Society, at its annual meeting, elected the following officers: president, Dr. Andrew Nelson, Manistique; vice-president, Dr. Samuel S. Hackwell, Blaney; and secretary-treasurer and delegate to the State Society, Dr. George M. Livingston, Manistique.——At the annual meeting of the Eaton County Medical Society, held at Charlotte, Dr. Clarence B. Wasson of Bellevue was elected president; Dr. Flavius J. Knight, Charlotte, vice-president; Dr. Arthur H. Burleson, Olivet, secretary-treasurer; and Dr. Philip H. Quick, Olivet, delegate to the State Society.——The Tri-County Medical Society, made up of physicians of Wexford, Missaukee and Kalkaska counties, organized at Cadillac, November 4, and elected the following officers: president, Dr. Victor F. Huntley, Manton; vice-president, Dr. Raphael Brodeur, Cadillac; secretary-treasurer, Dr. Wallace J. Smith, Cadillac; delegate to the State Medical Society, Dr. Sair C. Moore, Cadillac; and alternate, Dr. Wallace J. Smith, Cadillac.——Hillsdale County Medical Society, at its annual meeting held in Jonesville, elected the following officers: Dr. E. Arthur Martindale, Hillsdale, president; Dr. Malcolm Graham, Jonesville, vice-president; and Dr. Burt F. Green, Hillsdale, secretary-treasurer.

MISSOURI

Sanitary Fountains for Schools.—Fifty sanitary drinking fountains for the Springfield public schools will soon be installed.

New Building for Sanatorium.—A new building to cost $35,000 has been commenced at Mount Vernon Sanatorium for the treatment of tuberculosis.

State Conference of Charities.—The eleventh annual conference of State Charities and Corrections, in session at Chillicothe, November 10-12, decided on Kansas City as the place of meeting for next year, and elected Dr. Thomas Riley, St. Louis, president, and Dr. G. Wilse Robinson, Kansas City, vice-president.

Society Meets and Banquets.—At the annual meeting and banquet of Caldwell County Medical Society at Breckenridge, Dr. George S. Dowell, Braymer, was elected president; Dr. Oscar O. Meredith, Breckenridge, vice-president; Dr. George W. Goins, Breckenridge, secretary-treasurer (reelected), and Dr. William T. Lindley, Hamilton, delegate to the state association.

Banquet to Physician.—Dr. Thomas H. Doyle, St. Joseph, former mayor and now police commissioner, was the guest of honor at a complimentary dinner, November 7, by the St. Joseph-Buchanan-Andrew County Medical Society, the occasion being his seventieth birthday. Dr. Charles R. Woodson presided as toastmaster, and Dr. James W. Hedden, on behalf of the St. Joseph-Buchanan Andrew County Medical Society, presented Dr. Doyle with a loving cup.

Personal.—Dr. Thomas B. Holder, Ash Grove, was accidentally shot in the hip while hunting near Walnut Grove, November 9.——Dr. Walter M. Cross, Kansas City, has been reappointed city chemist.——Dr. Oliver C. Gebhart, St. Joseph, major in command of the Field Hospital Corps of the Missouri National Guard, has been detailed to inspect the medical property of the state.——Fire of unknown origin destroyed the office of Dr. William L. White, Springhill, November 1.

St. Louis

Hospital Sunday Fund.—The annual report of the St. Louis Hospital Saturday and Sunday Association shows that during the past year $46,469 was donated to the fund.

Opposes Closing of Dispensary.—Business men of South St. Louis appeared before the Hospital Board at the public hearing, November 1, and protested against the action of the board in closing the South Side Dispensary.

Hospital Staff.—The names of Drs. Bransford Lewis and Jesse S. Myer should have been given in the list of names of the Municipal Hospital staff which appeared in THE JOURNAL, November 5. Dr. George C. Crandall has been selected chairman of the visiting staff.——Dr. E. Lee Myers, senior physician of the City Hospital, has resigned.

Complete Addition to Sanatorium.—The west wing addition to the Sanatorium at the City Insane Asylum has been completed, and all insane patients housed in the infirmary have been transferred to the Sanatorium. The quarters vacated by the insane patients will be occupied by the poor patients, hitherto cared for at the Female Hospital, and the Female Hospital will be abandoned for the present.

Vaccination Resolutions.—At a special meeting, called for the purpose, October 28 and 29, the St. Louis Medical Society adopted the following resolutions:

Whereas, There have recently appeared in several of the daily papers of this city, editorials and other articles decrying the practice of vaccination as useless, unscientific and dangerous, and

Whereas, Such editorials or articles may do great harm unless promptly answered by the medical profession, therefore, be it

Resolved, That the St. Louis Medical Society declares that vaccination, well and thoroughly done, absolutely prevents small-pox.

Resolved, That the truth of this statement is absolutely established by facts and figures.

Resolved, That the rare accidents reported as following the procedure, however deplorable in themselves, are outweighed a hundredfold by the enormous benefits which vaccination has conferred on humanity.

Resolved, That vaccination has, since its introduction 114 years ago, saved more lives than any other single measure known to science.

Resolved, That the necessity of thorough vaccination of this community, and especially of its children, is as great to-day as ever.

Resolved, That the secretary be instructed to furnish a copy of these resolutions to each of the daily papers of this city, with the request that they be published.

NEW JERSEY

New Site for Tuberculosis Hospital.—The hospital committee of the Morristown Antituberculosis Society has selected a site for its hospital property at Morris Plains. The property has been donated to the society by Frederick Burnham.

Donation to Day Camp.—David B. Mills, Montclair, has donated $800 to the Antituberculosis League of the Oranges, $500 of which is to be used for the fresh-air school, and the remainder for the maintenance of the day camp for children during the winter.

Personal.—Dr. Harry H. Sherk, Camden, was seriously injured in a collision, November 3, between his automobile and a trolley car.——Dr. Frank M. Dedaker, Philadelphia, has succeeded Dr. Harry C. Fish as resident physician at the Mercer Hospital, Trenton.——Dr. Francis K. MacMurrough, Jersey City, has moved his office to One Hundred and Forty-fifth Street and St. Nicholas Avenue, New York City.

Elect Officers.—The annual election of officers of the Washington County Medical Society resulted as follows: president, Dr. Frank P. McKinstry; vice-president, Dr. Charles M. Williams; recording secretary, Dr. Frederick J. LaRiew; corresponding secretary, Dr. Thomas S. Dedrick, all of Washington; treasurer, Dr. Edward H. Moore, Asbury; and trustees, Drs. Charles B. Smith and George C. Young, Washington, and Theodore B. Fulper, Junction.

Benefit by Open-Air Schools.—The pupils in attendance at the outdoor school opened last month by the Montclair Board of Education are already beginning to show improvement as the result of their studies in the open air. Some of the pupils have gained as much as a pound a week since the school has been in session, while only two of the twenty-two members have decreased in weight. The children who are unable to pay for transportation are furnished free transportation to the school and daily lunch is also provided.

Censure Physicians Who Leave Hospital.—The board of trustees of Mercy Hospital, Trenton, has passed resolutions holding Dr. Edward T. Craney, Philadelphia, and Harvey W. Lloyd, Shamokin, who summarily left the hospital, giving as a reason their inability to work under the superintendent, "highly censurable for their reprehensible, unprofessional and unethical conduct," and directing that the names of these individuals be entered on the minutes of the proceedings of the staff of the hospital as being recommended for dishonorable dismissal.

NEW YORK

Social Service Department Instituted.—A social service department has been instituted at the Buffalo General Hospital, in charge of Miss Lucia Stockton, who has spent several weeks in Boston becoming acquainted with the methods in use at the Massachusetts General Hospital.

Health Conference.—The tenth annual Health Conference of Sanitary Officers of the State of New York was held under the auspices of the New York State Department of Health in Buffalo, November 16 to 18. The chief subjects of discussion were "Public Health in the School," "Public Health in the Press," "The Health Department, Its Supreme Value to the People," and "Communicable Diseases." On the evening of November 17 a smoker was held at Hotel Iroquois.

New York City

Personal.—Dr. Travers R. Maxwell has been appointed assistant sanitary superintendent of Brooklyn, vice Dr. Alonzo Blauvelt.——Dr. David Edward Hoag has been elected lecturer on nervous and mental diseases in the New York Polyclinic Medical School and Hospital.

Municipal Milk Supply.—The New York Milk Committee will hold a conference December 2 and 3, to discuss more efficient ways of controlling the municipal milk supply in New York City. The work of the conference will be in four sections: "Milk Economics," "Milk Supply and Public Health," "Milk Standards," and "Milk Commissions." The meetings will be open to the public and the medical profession is invited to participate in the discussions. Information regarding the program will be furnished by Dr. Ira S. Wile, chairman of the conference committee, 230 W. 97th street.

Medical Sociology.—The preliminary announcement of the formation of the American Society of Medical Sociology has appeared. The object of the society is to study radically the questions of socio-medical nature, such as the need of a federal department of health; tuberculosis as an economic disease; whether there is any demonstrable relationship between the strain of our modern life and the increase of insanity; whether cancer is on the increase, and if so, what the probable etiologic factors are, etc. Dr. Abraham Jacobi is honorary president of the association, Dr. William J. Robinson, president, and Dr. A. C. Jacobson, secretary.

OHIO

Fraternity to Meet.—The fifteenth biennial convention of the Grand Chapter of the Nu Sigma Nu Medical Fraternity will open in Cleveland, November 26, with headquarters at the Hollenden.

District Society Meeting.—The seventh annual meeting of the Second Councilor District Medical Society was held in Springfield, October 25, and the following officers were elected: president, Dr. Charles L. Minor, Springfield; secretary, Dr. Henry D. Rinehart, Dayton; and treasurer, Dr. Pearl R. Madden, Xenia.

County Tuberculosis Sanatorium.—Plans are being prepared by the commissioners of Knox County for the construction of a building for the care and treatment of patients with tuberculosis. Under the new law, which goes into effect January 1, a separate building must be provided for tuberculosis patients at all county infirmaries.

Personal.—Dr. James R. Davis, Chardon, sailed for Europe November 2.——Dr. Sample B. McKerrihan has been appointed city physician of Portsmouth.——Dr. Frank E. Kitzmiller, Piqua, is ill at the Memorial Hospital.——Dr. James B. Ray, health officer of Portsmouth, has decided to retire from practice and will settle on his farm near Harrisonville.——Dr. Harry L. Connett, Dayton, has been appointed pathologist at the Athens State Hospital.——Dr. Noah Myers has been appointed a member of the board of health of Springfield, vice Dr. Ira E. Seward, resigned, to accept the position of health officer, made vacant by the resignation of Dr. Henry Baldwin. ——Dr. William C. Gates, Bucyrus, was seriously injured in a collision between his automobile and an interurban car, November 5.——Dr. Frederick P. Minton, Toledo, who has been seriously ill with septicemia, is reported to be convalescent.——Drs. Warner Hopkins Tuckerman and William C. Tuckerman, Cleveland, have returned from abroad.

Cincinnati

Antispitting Ordinance Enforced.—During the last week twelve individuals were arrested by the sanitary police for violation of the antispitting ordinance.

Miami Alumni Meet.—At the annual meeting of the Miami Medical College Alumni Association the following officers were elected: president, Dr. William C. Harris; vice-presidents, Drs. Joseph E. Pirrung, William C. Herman, Frederick W. Lamb and Daniel J. Davies; and secretary-treasurer, Dr. C. J. Broeman.

Dandridge Memorial Meeting.—The Cincinnati Academy of Medicine devoted the evening of November 14 to a memorial to Dr. Nathaniel Pendleton Dandridge. The following addresses were made: "Dr. Dandridge as a Colleague," by Dr. Byron Stanton; "As a Friend," Dr. Dan Millikin, Hamilton; "As a Surgeon," Dr. John C. Oliver; "As an Executive," Dr. Asa B. Isham; "As a Staff Officer," Dr. B. Knox Rachford; "As a Teacher," Dr. Julius H. Eichberg, and "As an Adviser," Dr. Christian R. Holmes.

Personal.—Dr. Jacob L. Tuechter has been appointed clinic director of the Cincinnati Antituberculosis League. He began his work November 11, and is on duty every day from 12 to 2, and on Monday and Thursday evening from 7 to 8. He is assisted in his work by the following volunteer staff: Drs. William H. Strietmann, Charles E. Iliff, Arthur J. Light, Marcus E. Wilson, Oscar Berghausen, Edith Smith, J. Emmitt Fayen, Edw. D. Allgaier, John R. Meek and A. G. Huffmann.—— Dr. Charles L. Bonifield has been appointed a member of the board of medical directors of the Cincinnati Hospital, vice Dr. N. Pendleton Dandridge.——Dr. Joseph W. Dodds, assistant health officer of Cincinnati, has resigned.——Dr. Edward H. Thompson, who was recently operated on for appendicitis, is reported to be convalescent.

Asks Injunction in Milk Case.—The Milk Commission of the Cincinnati Academy of Medicine is said to have filed suit in the Common Pleas Court to enjoin Charles I. West & Son from using parchment seals on their milk bottles and from advertising that they are selling certified and inspected milk. The commission claims that its object is the improvement of the milk supply in this city and that it has adopted two standards, "certified" and "inspected," which denote the amount of bacteria contained, and these labels are allowed only after the milk commission has made an inspection and passed on the condition of the dairies and cows and the method of handling milk, the expert work being in charge of the experts of the Bureau of Animal Industry of the federal Department of Agriculture. The commission claims that the defendant company has been using the labels and advertisements since October 1 last.

PENNSYLVANIA

Medical Library Started.—Dr. John S. Van Voorhis, Belle Vernon, the only living charter member of Fayette County Medical Society, has started a movement for the establishment of a society library by donating seventy volumes.

Hospital Reopened.—St. Margaret's Memorial Hospital, Pittsburg, which has been closed for several years, has been newly equipped and was opened for public inspection, October 1. The medical staff consists of Drs. Percival J. Eaton, Elwood B. Haworth, Sydney A. Chalfant, Evan W. Meredith, William C. White, William W. Blair, and William P. Barndollar.

Philadelphia

Pennsylvania Seniors to Edit a Medical Record.—The senior class of the medical department of the University of Pennsylvania will edit a medical record to be known as *Scope*.

Candy Men Attack Pure Food Statute.—Counsel representing twelve manufacturers, attacked the constitutionality of the Pennsylvania pure food act of May, 1909, in argument before Judges Buffington, Lanning and McPherson in United States Circuit Court. It was the complaint of the dairy and food commissioner Faust and his agent Harry P. Cassidy, that the defendants used sulphur dioxid. To this the candy manufacturers replied that sulphur dioxid is used in small quantities only, but is permitted in far greater quantities in molasses and dried fruits, therefore the act discriminates against the confectionery trade and is contrary to the constitution.

GENERAL NEWS

Interstate Physicians Meet.—The annual meeting of the Marinette (Wis.) and Menominee (Mich.) Medical Society was held in Marinette, November 9, and the following officers elected: president, Dr. Henry F. Schroeder; vice-president, Dr. Simon Berglund, and secretary-treasurer, Dr. Sherman E. Wright, all of Marinette.——The forty-second semiannual meeting of Union District Medical Association was held at Oxford (Ohio) Retreat, October 27. Dr. R. Harvey Cook, Oxford, was elected president, and Dr. Pearl M. Sater, Hamilton, was reelected secretary. The next meeting will be held in Richmond, Ind., in April.

Canal Zone Sanitation.—The report of the chief sanitary officer of the Isthmian Canal Zone Commission for September shows that during the month forty-eight deaths of employees occurred, thirty-three of which were from disease, and fifteen for external causes, equivalent to an annual mortality of 11.47 per 1,000. The death rates for Septembers of previous years were as follows: 1909, 12.76; 1908, 12.78; 1907, 26.83; 1906, 57.34 (in this year there was an epidemic of pneumonia among the employees); 1905, 32; and 1904, 14.31. Of the deaths from disease during the month, pneumonia caused six; malarial fever, four; pulmonary tuberculosis, three; and typhoid fever, two. No case of yellow fever, small-pox, or plague was brought to or originated on the isthmus during the month.

Hookworm Slides Available.—In a circular letter from the Hygienic Laboratory of the United States Public Health & Marine Hospital Service at Washington, Dr. C. W. Stiles announces that the demand for lantern slides to illustrate the anatomy and life history of the hookworm and the methods of preventing hookworm disease has increased to such an extent as to make it necessary to prepare a number of extra sets of slides. These will be loaned to medical societies, colleges, teachers' associations, women's clubs and other organizations that may desire to use them on condition that all requests for their use be sent through the secretary of the state board of health and that the slides be returned express prepaid immediately following their use. Preference will be shown to societies and institutions located in hookworm-infected states.

Surgeons Organize Congress.—The Clinical Congress of the Surgeons of North America was organized at the Hotel La Salle, Chicago, November 17, the initial membership being made up of the surgeons in attendance at the series of clinics. It is proposed to continue these clinical reunions year by year in one of the large cities of the country. Membership is made up of surgeons who register at the regular sessions of the congress. The following officers were elected: president, Dr. Albert J. Ochsner, Chicago; vice-president, Dr. John G. Clark, Philadelphia; editor and general secretary, Dr. Franklin H. Martin, Chicago; treasurer, Dr. Allen B. Kanavel, Chicago, and general manager, Mr. A. D. Ballou, Chicago.

Red Cross Seals.—The Christmas seals of the National Association for the Study and Prevention of Tuberculosis will be on sale all over the United States in postoffices and elsewhere in a few days and throughout the holiday season. We show the design of this year's seal on the left and last year's stamp on the right. The actual seals are in red and green and are very attractive for fastening gifts and embellishing letters, etc. The proceeds of the sale go to the above-mentioned association for its work against the great white plague. All possible publicity is being given to the sale, and, in many cases, physicians are taking the lead in seeing that the seals are on sale in their several communities, and that the public is informed through the local newspapers. The subject is further spoken of in the Editorial Department in this issue.

1910 Seal

1909 Stamp

Infant Mortality Prevention.—The first annual meeting of the American Association for Study and Prevention of Infant Mortality took place at McCoy Hall, Johns Hopkins University, Baltimore, Nov. 9-11. An exhibition was held in connection which remained open until November 16. The meeting and exhibition attracted a representative attendance of physicians, sanitarians, trained nurses and social workers from the United States and Canada. Resolutions were adopted committing the association to a campaign in the interest of birth registration; encouraging the promotion of undertakings for the prevention of disease in rural communities; urging more practical instruction in the subject of hygiene in normal schools; and in other training schools for teachers, and advocating the establishment of a national department of health. The subject discussed at the opening session was "The Duty of a Nation to Its Potential Citizens." Dr. J. H. Mason Knox, Jr., President, 1909-1910, presided, and Cardinal Gibbons pronounced the invocation. The speakers were M. Jusserand, French Ambassador to the United States; Dr. Abram Jacobi, New York; Professor Irving Fisher, of Yale University, and Dr. William H. Welch, of Baltimore. The other sessions were presided over as follows: Philanthropic Prevention: Dr. Hastings H. Hart, of the Russell Sage Foundation, New York; Municipal, State and Federal Prevention, Dr. William H. Welch; Medical Prevention, Dr. L. Emmet Holt, New York, and Educational Prevention, Dr. Helen C. Putnam, of Providence. The list of officers was published in THE JOURNAL of November 19, page 1819. The American Association for Study and Prevention of Infant Mortality was organized at New Haven, one year ago, following the conference called by the American Academy of Medicine on the Prevention of Infant Mortality. The association closes its first year with a membership of over five hundred. The enrolment is distributed throughout thirty-five states. Thirty-two societies have entered into affiliated relations with the association. The headquarters are at the Medical and Chirurgical Faculty Building, 1211 Cathedral Street, Baltimore, and Miss Gertrude B. Knipp is the executive secretary.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 12, 1910.

A Home Hospital

Patients who require hospital treatment in London may be divided into two classes—the poor, who are admitted into the hospitals where they are treated gratuitously, and the rich, who go into nursing homes. The latter are private enterprises in which the total expenses may amount to $1,000 or $1,500. Now, there are many patients who cannot be classed as poor, but who cannot pay these charges, and these, though able and willing to pay moderate charges, are driven into the hospitals to become recipients of charity intended only for the poor. A movement is now on foot in London to remedy this evil. The Westminster Division of the British Medical Association proposes to build a small hospital containing forty beds, equipped in the most modern fashion to accommodate patients at a varying scale of fees. There will be no regular staff, but each patient will be attended by his own physician, who can call in any assistance he may require. The cost of the undertaking is estimated at $60,000. The institution will be entirely controlled by physicians, with perhaps the assistance of one or two business men. The scheme, if successful, will probably lead to the establishment of similar institutions throughout the country.

Food Requirements

A very careful series of observations of the dietary of the Bengalis has been made by Captain D. McCay of the Indian Medical Service, and is interesting in connection with the revolutionary doctrine of Professor Chittenden as to the small amount of protein necessary for man. The subjects belonged to various classes, whose protein metabolism amounted to 0.113 gm. of nitrogen per kilogram of body weight per day. Professor Chittenden states that "a daily metabolism of 0.1 to 0.12 gm. of nitrogen per kilogram of body weight is quite adequate for physiologic needs, provided a sufficient amount of non-nitrogenous food is taken to meet the energy requirements of the body." In the Bengalis we have a whole race who for centuries have lived on the dietetic system advocated by the American professor. Their physical development does not support his contention. Captain McCay finds that the Bengali is 25 per cent. lighter than the average European and has a smaller chest measurement, though of much the same stature. His blood also contains 25 per cent. less hemoglobin and its pressure is 25 per cent. less than that of the European. Compared with Anglo-Indian and Eurasian students, Bengali students show no progress in physical development during their period of study between the ages of 16 and 20, though they all live in similar surroundings and differ mainly in the fact that they consume about 0.11 gm. of nitrogen per kilogram of body weight less as against 0.19 of the two former classes. In physical endurance and activity the Bengali laborer is much inferior to the European. In Calcutta insurance offices rate all Bengali lives as five years worse than European, and one large office will accept the policies of only well-educated Bengalis of the higher castes, and even then not beyond the ages of 35 to 38.

Plague in England

In my last letter to THE JOURNAL [November 19, p. 1820] the epizootic of plague among rats in Suffolk was reported. United action is being taken by the various local health authorities around Ipswich (the capital of the county) in the destruction of rats. Not only in the affected district is this being done, but precautions are being taken in the adjacent districts to prevent the spread of the disease to them. The peninsula-shaped district lying between the rivers Orwell and Stour, in which the disease first appeared, is being systematically scoured for rats. As hares and rabbits have also been found dead from the disease, these animals and other game from the affected district are no longer being eaten. Two ferrets have died from plague after eating a dead rabbit, and a warning has been issued not to feed them on rabbits. Vegetable growers in the affected district are incurring serious losses, as they cannot sell their produce. In London special precautions against the introduction of plague are being taken. Rats dead from the disease have been found in the docks. Last month 3,095 rats were destroyed in vessels and dock warehouses, making a total of 640,619 exterminated since the work of destruction was systematically begun in 1901.

The Employment of the Tuberculous

The employment of persons who have recovered from tuberculosis often furnishes a more difficult problem than their treatment. The occupation which was followed before the onset of the disease has frequently been unhealthful, and to return to it means to court a relapse, while the pecuniary loss in learning a new trade may be more than the patient can stand. A large number of representatives of hospitals for consumption, sanatoriums and health societies attended a conference arranged by the Charity Organization Society to discuss the after-care and employment of consumptives discharged from sanatoriums. Dr. Jane Walker, a sanatorium superintendent, said that the best trade for a discharged tuberculous patient was, with few exceptions, his old one, for thereby most money could be made, and anxiety, that potent factor in consumption, was minimized. Indeed, an unsuitable occupation with plenty of money coming in was better than an ideal one with very little coming in. However well a patient might be on leaving a sanatorium, he wanted careful watching for two years after leaving. If he had no work and his food was insufficient, he was almost certain to lose ground. No patient should be discharged from a sanatorium unless he had a friend in the neighborhood to which he was going. Dr. Burton Fannin, another sanatorium superintendent, gave an interesting analysis of the after-history of 306 patients with mild cases. Sixty per cent. went back to their former work; 31 per cent. to new work, and only 8 per cent. could find no work. Of those who went to outdoor work, 76 per cent. kept well, 12 per cent. fairly well, and 10 per cent. became worse. Of those who had taken indoor work, 73 per cent. were in good health. 11 per cent. were fairly well, and 15 per cent. became worse. There was, therefore, but little difference between outdoor and indoor employments.

The Care of the Epileptic and Feeble-Minded

At a conference of poor-law authorities on the subject, Dr. Jordan, medical officer of the Monyhull Colony for Epileptics and Feeble-Minded, gave an account of the work which had been done and the results achieved at the colony since it was opened in March, 1908. As a result of the training and treatment, the inmates had not only in many cases fewer fits, the feeble-minded were not only merely less feeble-minded, but they were nearly all better men and women than when admitted. The agencies of improvement were (1) work, (2) recreations and amusements, (3) education, mental and physical, (4) medical treatment. Dr. Jordan recommended that all feeble-minded persons should be removed from the workhouses and poorer private homes to institutions in which they could be properly trained. Perhaps the policy would be adopted in the future of confining all sane epileptics and feeble-minded persons in industrial colonies where the sexes could be separate after childhood.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 3, 1910.

Personals

Professor Wenckebach, of Groningen, has declined a call to Marburg as director of the medical clinic.

Professor v. Leube celebrated his twenty-fifth anniversary as regular professor on the Würzburg faculty October 31; on this occasion he was given the title of Excellency.

Centennial of the Leipsic University Gynecologic Clinic

The university gynecologic clinic of Leipsic celebrated its centennial October 30. The director of the institute, Professor Zweifel, was appointed privy counselor on this occasion. In addition, the city of Leipsic endowed two beds in the institution for needy lying-in women.

Bacteriologic Laboratories in Bavaria

Laboratories for bacteriologic investigation have been established in Munich, Erlangen and Würzburg in connection with the universities. These institutions are to undertake investigations and make reports on bacteriologic questions for public officials and institutions and licensed physicians. The fee for examination is 50 cents (2 marks) for microscopic search for disease germs (tubercle bacilli, etc.); $1 (4 marks) for microscopic and cultural investigation of blood, etc., for disease germs; $2 (8 marks) for the more difficult cultural investigations of excreta (e. g., in typhoid); and $1.50 (6 marks) for the serum test for syphilis. If animal experiments are necessary, the fees are higher, as also for extensive reports.

Infectious Diseases in Prussia in 1908

According to the official report recently published, the deaths from influenza for 1908 were nearly twice as high as the previous year, being 2.29 per 10,000 living against 1.45 for 1907. Influenza was most prevalent in the three first months of the year. Of 8,824 deaths, 5,532 were over 60. In sixteen districts the disease was epidemic. The epidemic character was marked in boarding schools and college dormitories. The prevalence and mortality of cholera morbus was also greater than in the previous year. The mortality amounted to 26,454, or 6.8 per 10,000 living. In the first year of life it amounted to 218.65 per 10,000 living. These children were nearly all artificially fed. The mortality was much smaller in the country than in the cities.

The morbidity and mortality from typhoid for 1908 was smaller than in the previous year in accordance with the steady decrease of the last decade; it amounted to only 0.54 per 10,000 living. By bacteriologic examination, numerous bacilli-carriers were discovered. In the spread of typhoid, the transmission from person to person played the greatest rôle. There were only 390 cases of small-pox in the entire year, with sixty-one deaths, and all the cases could be referred to infection introduced from Russia.

In the general hospitals of Prussia, 22,418 persons (13,486 men and 8,932 women) were treated for gonorrhea; 23,909 persons (14,703 men and 9,206 women) for syphilis and chancroid—a total of 12.04 cases of venereal disease for 10,000 inhabitants. From puerperal fever 3,899 mothers died, 1,757 in cities, 2,142 in country districts. For 10,000 living of the female sex, two died of puerperal fever, or 30.2 for every 10,000 deliveries.

The mortality from diphtheria and croup was 9,797, 2.55 per 10,000 living; this figure is a little higher than in the previous year, but relatively lower than in all other previous years (1898: 5.56 per 10,000). There were 74,000 cases of the disease reported. From scarlet fever 8,482 persons died, 2.2 per 10,000; 84,000 cases were reported; from measles and rötheln, 7,359 died, 1.92 per 10,000, and from whooping-cough 10,672, 2.77 per 10,000.

Robert Koch on the Epidemiology of Tuberculosis

The last article by Robert Koch has just appeared in the *Zeitschrift für Hygiene*. It is an address on the epidemiology of tuberculosis which he delivered in the Academy of Sciences. He discussed in particular the question to what the reduction in mortality from pulmonary tuberculosis in the various countries is to be attributed. As the reduction in mortality is not uniform, different causes must be responsible in different places; a reduction of virulence is not to be assumed. The decrease of consumption since the discovery of the tubercle bacillus is explained by many by the fact that in consequence of the recognition of the infectious character of tuberculosis, men are more careful to avoid the possibility of infection. While this explanation has much to its credit, it must not be regarded as a complete one. The claim put forth by German authors that social legislation, particularly insurance against illness, has caused a decrease of tuberculosis, is valid also to a certain degree. But the reduction of the mortality rate has been observed also in most other countries where laws of this sort have not yet been introduced.

In his opinion, sanatorium treatment and hospitalization of tuberculous individuals are the main factors in the reduction. Where institutional care has been most readily available, the morbidity and mortality from tuberculosis have been reduced to the greatest extent, and *vice versa*. To this Koch, like Newsholme, ascribes the facts that in England and Scotland the mortality has decreased, while in Ireland it has risen; that in Norway the mortality has increased and that it is remarkably high in Paris.

Of scarcely less importance is another factor, namely, the housing conditions. The smaller the dwelling the more infection is favored, and in this respect especially an insufficient provision for bed room is dangerous. The fact that cities with us have frequently a smaller tuberculosis mortality than the neighboring country is to be referred first to the lack of hospitals, but, secondly, to the custom of the country population to choose the poorest and smallest room in the house as the sleeping room. According to Kayserling, of the consumptives who died in their own home, 40.6 per cent. occupied one-room dwellings, 41.7 per cent. two-room dwellings. In Berlin in the course of three years more than 8,000 persons were exposed to infection by the consumptives who died in one-room dwellings.

Epidemiologic studies of this sort can be carried out only on the basis of extensive mortality statistics, which must include

exact details. When the mortality curve for a larger or smaller district is rising or does not show a decline, investigation should be made to learn whether the measures adopted are effective or should be improved or supplemented. In Norway, for instance, the course of the curve for pulmonary tuberculosis instigated the building of more sanatoriums and hospitals, and in this way a reduction of the curve was brought about.

Localization of Brain Functions

At the Königsberg Naturforscher assembly, v. Monakow, the neurologist of Zurich, delivered a very interesting address on our present knowledge of the localization of brain functions. Monakow especially opposes the common view, both of clinicians and physiologists, according to which the higher psychic functions and psychologic conceptions which arise from self-contemplation are referred to circumscribed parts of the cortex without any analysis into their physiologic constituents. He makes the claim that before the question of localization is raised, it must be determined what can be localized and what can not. It is not correct to conclude from the symptoms which arise after a local lesion of the brain that all the functions which appear to be disturbed are localized in this part of the brain and only in this. The localization of the symptoms must not be confused with the localization of the function. In every local lesion of the brain (whether in animal experimentation or at the sick bed) two classes of symptoms may be distinguished: 1. The residuary which depend on the lack of function of the injured part. They are more or less of an elementary nature and apply especially to the reflexes. They are constant for a definite area. 2. The temporary; these differ according to the nature of the lesion and whether the affected brain is healthy or is diseased or exhausted. They are as a rule, temporary and usually completely disappear although after varying lengths of time. Opinions still vary as to how these disturbances, which in Monakow's opinion are not to be explained by the localization of the focus, are to be regarded and especially how their disappearance is to be regarded.

Monakow rejects the view commonly assumed at present, according to which the restoration of a function is due to its vicarious assumption by another part of the brain in place of the destroyed center (in the sense that the other parts take up the task of the destroyed part in addition to their own function). According to his view the restoration of the function destroyed at the beginning depends on the disappearance of the diaschisis. By diaschisis he means a form of shock essentially similar to other kinds of shock (psychic shock, surgical shock, apoplexy) from which it is distinguished only by the manner of its development (a division of the function into the individual constituents by the removal of a directing, combining link) and further by the fact that it is to a peculiar degree selective and in its propagation follows the line of the anatomical fibers. If from a reflex are extending over the entire cortex and the subcortical portions of the cerebrum, and consisting of a number of members acting partly synchronously and partly successively, one of the links is destroyed by a local lesion, the other members even if they are anatomically intact may be inhibited in their function and this so much the more if the lesion affect a brain which is weakened by pathologic processes or imperfect nutrition. Under such conditions the diaschisis may only imperfectly retrogress or may become permanent, but, as is shown by animal experimentation, surgical operations, etc., it is usually a transitory phenomenon. The anatomically intact members of the reflex are resume their activity and learn to dispense with the cooperation of the destroyed member, so that at most certain disturbances of function result, disturbances which are represented by the residuary symptoms.

To learn the function of the definite portion of brain we must study the residuary symptoms; but for a rational localization of the function, the study of the diaschisis, its appearance and retrogression is indispensable. In the localization of function, it must be particularly kept in mind how various are the individual nervous actions in character and structure and how little we are able to analyze and group nervous functions according to their physiologic factors. Even the simpler nervous activities can be localized only according to their components and not as entities. In order to be able to understand the complicated structure of functions, it is necessary to consider the phylogenetic and ontogenetic development of the central nervous system with reference to the function of its individual component systems. The simplest form of the central nervous system (in the invertebrates) is represented by the ganglion system. With this is associated in the next higher stage the metameric system (lower vertebrates), then the midbrain system (bony fishes), and finally the cerebral cortex system (first in reptiles). In such a way the next higher system is always differentiated from the previous one (and this, indeed, occurs from the frontal end). Parallel with this development runs the finer structure of the organs of the body, of the muscles, the differentiation of organs of special sense, the development of the limbs, the appearance of constantly more complicated and purposive movement and the influence on action of individual experiences from combined impressions on the memory. In the coordinated movements and the sense perception of the higher animals all divisions of the central nervous system participate in common, but in a different way. In these phenomena the cortical system not only assumes the controlling rôle but cooperates with the phylogentically older systems in relatively elementary actions, at least in the sense that it assumes the more specialized and later acquired components. In locomotion, for instance, the metameric (spinal) system furnishes the foundation for movement in the form of the movements of the legs as they follow each other, the cerebellum provides the factors for maintaining equilibrium in rest and in movement as well as the unconscious finer regulation, the midbrain provides the connection between the individual action of the spinal segments and the cerebrum finally assumes initiation of the movement and the superintendence of it as a whole and especially the spatial direction, particularly with reference to the direction of the walk and its goal and in addition the finer adaptations of the feet to the condition of the ground.

In all accomplishments, furthermore, the chronologic factor, that is, the successive in addition to the coincident, must be taken into consideration to a great degree, the more highly developed the activities, the more the merely local factor is subordinated to the chronologic. Each function consists of synchronous and successive individual actions. In a narrowly circumscribed part of the brain only synchronous activities can be localized. The change of activity, the substitution of one activity by another, and in short the succession of functions in time evidently cannot be sharply localized. The higher the entire activity the more the chronologic factor comes to the front and in the highest, the psychic function, in the enormous predominance of the chronologic factors and in consideration of the fact that continually the same neurons are employed but constantly in other combinations and groups, it is no longer possible to determine localization.

Berlin Auxiliary Schools

The Berlin public school is to undergo a complete transformation by the establishment of the so-called auxiliary schools. These auxiliary schools in future are to receive the public school children for whom systematic instruction in the ordinary schools is not successful on account of intellectual or physical defects, but who seem to be capable of instruction. The instruction in these schools is to be so arranged that the children shall either return to the ordinary school or secure in the auxiliary school such preparation for later life as is possible to them. These new schools constitute a department of the public school and are intended for children of all religious denominations. At first only one preliminary class is to be opened in each of the thirteen Berlin school districts. Further development according to the needs will be made. All such children may be received as have attended the lowest class of the ordinary schools for at least one year without success and after the close of this year remain in the lowest division of this class. This preliminary class shall be attached to an existing class of a public school for feeble-minded children. After a year's attendance on the preliminary class, children who have made little or no progress will be carefully examined to determine whether they shall be transferred to the auxiliary school or whether a further trial is to be recommended. No child shall remain longer than two years in the preliminary class. Idiotic children are to be sent to institutions for idiots. Children hard of hearing are to be transferred to a special department of the auxiliary school. The already existing special classes are to be united into an auxiliary school with five progressive classes. The children are to remain at least two years with the same teacher. As a rule it is provided that there shall be eighteen children to the class in the lower grade, twenty in the classes of the middle grade and twenty-two in the upper grade with twelve in the classes for those hard of hearing. In these classes the principles of

coeducation of the sexes will be carried out. Children who are shown to be insane or epileptic will be excluded from the instruction in the auxiliary school and may be sent to public institutions or provided with private instruction at the cost of the municipality. Children with defective speech will be given special instruction.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Nov. 7, 1910.

Investigations on Occupational Diseases

In 1914 a congress on the diseases of occupation will be held in Vienna. As the managing committee consists of Viennese physicians an action has now been undertaken in this city as well as in the empire, to ascertain the conditions which tend to influence the health of laborers unfavorably. The investigations are directed to the following points: effect of working in hot and moist air (laundries, bakeries and mines); influence of bacterial infection (anthrax, pneumococcus) and of dust-producing occupations (skin and leather trades, the butchers' trade, the iron, stone, celluloid trades); diseases due to electricity; diseases due to industrial poisons, such as anilin dyes, mercury and lead. Special stress is laid on the study of the phenomena of fatigue, its physiology and pathology in consideration of industrial occupations, and on the effect of night work.

A Protest Meeting of the Austrian Medical Profession Against Threatened Legislation

The prolonged conflict between the medical profession engaged in dentistry and the technical dentists, who have no medical instruction, is the object of our latest legislative experiment. The government intends to create an "intermediate" profession, so to say, consisting of men who, after studying a little anatomy and pathology, may be allowed to study the pathologic conditions of the human mouth and teeth and surgery of this region. To this the medical profession could assent only on condition that the medical part of the curriculum be sufficiently thorough to make the "dentist" really capable of dealing surgically with pathologic conditions. But what the profession stoutly opposes is the plan of the government to give the same right to the present non-medical dentists, and in future to permit only the graduates of the new—as yet non-existent—dentistry school to practice dentistry. Thus, doctors of medicine would not be allowed to extract teeth or fill them, while laymen—the present dentists—would have the right to operate on fractures of the mandible, or to resect the apex of the tooth, etc. Physicians justly assert that this first legalized "raid" into the domain of the doctor will soon be followed by demands for admission to practice by opticians, masseurs, dressmakers and the like. A mass meeting of physicians took place a short time ago in Vienna, in which the presidents of various important medical societies, as well as the medical members of the Austrian Parliament, spoke before an audience of some 800 delegates of the medical practitioners of the empire. In a resolution adopted by the meeting and forwarded to the government, the representatives of the medical profession protested vehemently against the intended laicizing of medicine. If the threatened bill should become law, the profession would be prepared to order a general medical strike in the whole empire.

The New Radium Institute

A few days ago, the Radium Institute, the first of its kind on the continent, was opened in Vienna in the presence of a brilliant gathering. It is one of the few scientific institutions erected by private grants, all such buildings being usually paid for by the state. It is devoted solely to the study of the chemical and physical qualities of radium. No teaching will take place in the building. There is a large laboratory on the ground floor, for the purpose of examining spring waters for radio-activity, and also a chemical and microscopic laboratory with an ultramicroscope. An *x*-ray outfit and a plant for high-voltage currents up to 4,000 volts is installed on the first floor, while a gigantic electromagnet, weighing 1,300 hundredweight, is arranged for the purpose of investigations. The institute will not conduct medical experiments, but will, if necessary, place the substance at the disposal of hospitals. The institute has been presented with 3 grams of radium bromid, valued at $200,000, by the Academy of Sciences of Austria, to which latter corporation the institute will be annexed in the near future.

Marriages

J. DON MILLER, M.D., Indianapolis, to Miss Maud Conner of Anderson, Ind., November 1.

BERNARD J. O'NEILL, M.D., San Diego, Cal., to Miss Anna Chapman of Sigel, Ill., November 9.

WILLIAM DAY CHAPMAN, M.D., Silvis, Ill., to Miss Bessie Wayne of Orion, Ill., November 10.

JOHN A. SALB, M.D., Indianapolis, to Miss Mary McNurney of Knightstown, Ind., November 1.

NEVIN M. WETZEL, M.D., Jameson, Mo., to Miss Lillie Joachimi of Versailles, Mo., October 4.

JOHN FRANCIS URIE, M.D., U. S. Navy, to Miss Caroline Foulke of Richmond, Ind., November 12.

JOHN WALTER CARMACK, M.D., Indianapolis, to Miss Bertha Pinber of Pleasant Lake, Ind., November 8.

HENRY IRVING BERGER, M.D., to Miss Ella Winkler, both of Indianapolis, at Covington, Ky., November 5.

JOHN KAYLOR KINGSBURY, M.D., to Miss Florine Alcott Williams, both of Indianapolis, November 16.

OTTO CARL REICHE, M.D., Laceyville, Pa., to Miss Vinnie Fenstermaker of Allentown, Pa., November 11.

JOHN SAMUEL BOGGESS, M.D., U. S. P. H. and M.-H. Service, to Miss Ethel Keating of Columbus, Ohio, November 22.

Deaths

George Frederick Barker, M.D. Albany (N. Y.) Medical College, 1863; an eminent physicist, chemist and teacher; died at his home in Philadelphia, May 25, aged 74. He did not follow the practice of medicine, but devoted his life to chemistry. He served as professor of natural sciences at Wheaton College, Ill., professor of chemistry in the Western University of Pennsylvania, professor of physiologic chemistry and toxicology in Yale Medical School, professor of chemistry in Williams College, and from 1873 to 1900 was professor of physics at the University of Pennsylvania, and since that time emeritus professor. In 1872 he served as state chemist of Connecticut. He was given the honorary degree of Sc.D. by the University of Pennsylvania in 1898, and of LL.D. by Allegheny College in 1898, and McGill University in 1900. In 1881 he received from the French government the decoration of the Legion of Honor.

Joseph R. Gibson, M.D. Colonel, M.C., U. S. Army, retired, died at his home in Philadelphia, November 2, aged 72. Dr. Gibson entered the army as assistant surgeon in 1862, and was made captain in 1866. In 1877 he was promoted to major and surgeon, in 1894 to lieutenant-colonel and deputy surgeon general, and in 1895 was retired on account of disability in line of duty, and was advanced to the rank of colonel on account of Civil War service; in 1904 he received the brevet ranks of captain and major for faithful and meritorious services during the Civil War, and in 1866 was made brevet lieutenant-colonel for meritorious and distinguished service at Hart's Island, N. Y., where cholera prevailed.

Leonard Luton, M.D. Hahnemann Medical College, Chicago, 1867; M.C.P. and S., Ont., 1869 (Hon.); for many years a member of the Ontario Medical Council and its president in 1898; for fifteen years coroner of Elgin County and surgeon to the County Home of Industry; a member of the city council of St. Thomas for five years; and for two years chairman of the board of health and president of the board of governors of the Amasa Wood Hospital; died at his home, November 1, from uremia, aged 75.

Albert Payson Jackson, M.D. Albany (N. Y.) Medical College, 1862; a member of the Medical Society of the State of New York, and at one time president of the Genesee County Medical Society; one of the founders of the New York State Medical Association, and of the state and national associations of railway surgeons; surgeon of the western division of the West Shore Railroad; health officer of Oakfield, and coroner of Genesee County for fourteen years; died at his home in Oakfield, November 9, from heart disease, aged 67.

Robert Hunter Duncan, M.D. College of Physicians and Surgeons, Baltimore, 1885; for several years surgeon for the Pacific Mail Steamship Company; a specialist on diseases of the eye and ear, of Brooklyn; a member of the staff of

the Manhattan Eye and Ear Hospital, New York City; the Eye and Ear Infirmary of Long Island College Hospital, and Williamsburg Hospital; died in the Jamaica Hospital, October 31, aged 48.

Henry Martel Newman, M.D. Georgetown University, Washington, D. C., 1876; a member of the Medical Association of the District of Columbia; and one of the staff of Providence Hospital and St. Ann's Orphan Asylum, Washington; died at his home in that city, November 11, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health, aged 54.

Frank Newell Lewis, M.D. University of Vermont, Burlington, 1882; a member of the American Medical Association, New York Academy of Medicine, and American Ophthalmological Society; surgeon to the Manhattan Eye, Ear and Throat Hospital; professor of diseases of the eye in the New York Postgraduate Medical School; died at his home in New York City, November 13, aged 53.

Montgomery Linville, M.D. Jefferson Medical College, 1873; a member of the American Medical Association, and National Association of Railway Surgeons; surgeon to the Shenango County Hospital, New Castle; formerly local surgeon to the Pennsylvania System; died at his home in New Castle, Pa., November 14, from the effects of poison, self-administered accidentally, aged 56.

William Samuel Ackert, M.D. Albany (N. Y.) Medical College, 1891; a member of the American Medical Association; attending physician to the Home for the Friendless, and Old Ladies' Home, Poughkeepsie, N. Y.; and during the summer of 1900, physician to the local tuberculosis camp; died at his home in Poughkeepsie, November 7, from valvular heart disease, aged 44.

Hubert DeLancey Knickerbocker, M.D. New York Homeopathic Medical College, New York City, 1891; a veteran of the Spanish-American War; for a time health officer of and a member of the Board of Education of Springwater, N. Y.; died at the home of his sister in Watertown, N. Y., November 8, from diabetes, aged 43.

Joseph Claybaugh Kalb, M.D. Starling Medical College, Columbus, Ohio, 1857; of McPherson, Kan.; assistant surgeon of the Forty-second Ohio Volunteer Infantry, surgeon of the Forty-fifth Ohio Volunteer Infantry, and division surgeon during the Civil War; died in Fort Worth, Texas, October 30, from cerebral hemorrhage, aged 79.

William H. Rothert, M.D. Medical College of Ohio, Cincinnati, 1889; a member of the Association of Military Surgeons of the United States; surgeon of the First Infantry, Ohio National Guard; an instructor in Miami Medical College; died at his home in Cincinnati, November 4, from cerebral hemorrhage, aged 46.

William S. Searle, M.D. University of Pennsylvania, 1859; for several years vice-president of the State Board of Medical Examiners of New York; one of the founders and for thirty-six years a member of the staff of the Brooklyn Homeopathic Hospital; died at his home in Brooklyn, October 30, aged 77.

Frank Ferrell, M.D. New Orleans School of Medicine, 1860; surgeon of the Thirty-Fourth Mississippi Infantry, C. S. A., during the Civil War; and for many years a member of the Mississippi State Medical Association; died at his home in Ashland, September 13, from emphysema, aged 78.

Jacob Harvey Edwards, M.D. University of Tennessee, Nashville, 1901; a member of the American Medical Association; of Westbrook, Texas; was thrown from his buggy and instantly killed, while making a professional call near Cuthbert, Texas, October 24, aged 37.

Lizzie Wild Charles, M.D. prominent as an organizer of branches of the Audubon Society in Illinois, and in the work of woman's clubs and schools; for two terms president of the Austin Woman's Club; died at her home in Austin, October 6, from pneumonia, aged 67.

James I. Thomas, M.D., for many years a resident of Denver; for fifty years a practitioner of the United States and formerly a member of parliament of the Dominion of Canada; died in the Denver County Hospital, March 18, from senile debility, aged 90.

Francis Bartow Gregory, M.D. Tulane University, New Orleans, 1886; a member of the American Medical Association; formerly of Lumpkin, Ga.; died recently at his home in Americus, Ga., and was buried at Lumpkin, November 4, aged 49.

William S. Chenoweth, M.D. Northwestern Medical College, St. Joseph, Mo., 1883; a member of the American Medical Association; and a veteran of the Civil War; died at his home in Fern Hill, Wash., November 1, from cerebral hemorrhage, aged 61.

William Snelson, M.D. College of Physicians and Surgeons, Keokuk, 1878; formerly of Massena, Iowa; for many years a member of the city council; died at the home of his daughter in Amarillo, Texas, October 27, from arteriosclerosis, aged 62.

Louis A. de Laureal, M.D. Homeopathic Medical College of Missouri, St. Louis, 1888; coroner of St. Martin Parish, La., for several years; and a member of the Board of Health of St. Martinsville; died at his home, August 28, aged 42.

Sumner Davis, M.D. Chicago Homeopathic Medical College, 1883; demonstrator of anatomy at his alma mater for two years; formerly of Grand Island, Neb.; died on the ranch of his son near New Plymouth, Ida., November 1.

Adolph Berger, M.D. Humboldt Medical College, St. Louis, 1862; a veteran of the Civil War; and for thirty years a member of the Board of Education of Lebanon, Ill.; died at his home in that city, November 10, aged 89.

Leslie B. Shanklin, M.D. Central College of Physicians and Surgeons, Indianapolis, 1905; of Sullivan, Ind.; a member of the American Medical Association; died in Pueblo, Colo., November 11, from tuberculosis, aged 33.

John Arthur Montgomery, M.D. College of Physicians and Surgeons, New York City, 1872; died at his home in Walton, N. Y., October 24, from injuries received in a collision between his carriage and an automobile, aged 67.

Paul Thomas Kimball, M.D. College of Physicians and Surgeons, New York City, 1887; a member of the American Medical Association; died at his home in Lakewood, N. J., November 3, from heart disease, aged 48.

Charles Berromeo Curran, M.D. Long Island College Hospital, Brooklyn, 1893; for fifteen years a member of the staff of the Brooklyn Board of Health; died at his home, November 1, from pneumonia, aged 38.

Edward E. Brown, M.D. Albany (N. Y.) Medical College, 1879; a veteran of the Civil War; formerly of Phelps, N. Y.; died in the State Soldiers' Home, Bath, N. Y., October 6, from chronic nephritis, aged 76.

Seth G. Shanks, M.D. Albany (N. Y.) Medical College, 1875; of Albany; a member of the American Medical Association; died in the Albany Hospital, November 5, after an operation for peritonitis, aged 63.

Walter H. Fenby, M.D. University of Maryland, Baltimore, 1894; a member of the Medical and Chirurgical Faculty of Maryland; died at his home in Ruthsburg, November 5, from acute nephritis, aged 40.

George Asbury Dewey, M.D. Western Reserve University, Cleveland, 1849; surgeon in the Federal service during the Civil War; died at his home in Brooklyn, November 1, from senile debility, aged 82.

Thomas L. Blackwell, M.D. Louisville Medical College, 1874; a member of the Medical Society of the State of North Carolina; died at his home in Boonville, May 6, from disease of the liver, aged 58.

James L. Robinson, M.D. University of Louisville, 1881; a member of the Indiana State Medical Association; died at his home in Wheatland, November 8, from cerebral hemorrhage, aged 56.

George C. Young, M.D. Michigan College of Medicine and Surgery, Detroit, 1890; of Jackson, Mich.; fell through an elevator shaft, November 2, and died from his injuries November 3, aged 52.

Charles A. Dana Miles, M.D. Jefferson Medical College, 1876; for two terms coroner of Westchester County, N. Y.; died at his home in Yonkers, November 9, from acute gastritis, aged 58.

Claud M. Ferro, M.D. College of Physicians and Surgeons, Chicago, 1883; of Marshall, Minn.; died in the Minneapolis Sanitarium, recently, and was buried at Tracy, June 15, aged 59.

Ezra B. Evans, M.D. University of Virginia, Charlottesville, 1871; a member of the Indiana State Medical Association; died at his home in Greencastle, November 9, from tuberculosis, aged 64.

William J. McNeill, M.D. Detroit College of Medicine, 1899; of Detroit; died in St. Mary's Hospital, Saginaw, November

6, after an operation for the relief of intestinal obstruction, aged 39.

William M. Roberts, M.D. Northwestern University Medical School, Chicago, 1893; of St. David, Ill.; died in Graham Hospital, Canton, Ill., November 8, from heart disease, aged 45.

James Baker, M.D. Rush Medical College, 1869; physician of Fulton County, Ill.; died at his home in Table Grove, November 3, from tuberculosis, aged 65.

James A. Baird, M.D. Louisville Medical College, 1894; formerly of Moulton, Texas; died at his home in Beaumont, Texas, November 5, from nephritis, aged 54.

Andrew Drybrough, M.D. University of Edinburgh, Scotland; formerly of Evansville; died at his home in Worthington, Ind., October 20, from epilepsy, aged 41.

Harry L. Schulze, M.D. Columbus (O.) Medical College, 1883; Jefferson Medical College, 1886; died at his home in Mt. Oliver, Pa., November 1, aged 53.

William G. Branch, M.D. University of Louisville, 1884; a member of the Louisiana State Medical Society; died at his home in Bunkie, August 25, aged 49.

William Edward Miles, M.D. Eclectic Medical Institute, Cincinnati, 1884; died at his home in Webb City, Mo., October 30, from disease of the liver, aged 59.

Charles H. McMillan, M.D. Northwestern Medical College, St. Joseph, Mo., 1893; died at his home in Leon, Kan., October 30, from tuberculosis, aged 40.

Robert H. Green, M.D. St. Louis College of Physicians and Surgeons, 1886; died at his home in Poteau, Okla., November 2, from senile debility, aged 77.

Benjamin A. Bugg (years of practice, Ark.); for many years a practitioner of Blytheville; died recently at Gainesville, Texas, aged 75.

John B. King, M.D. Tulane University, New Orleans, 1875; of Segovia, Texas; was found dead in the Llano River, November 2, aged 62.

Willard R. Hillegas, M.D. Albany (N. Y.) Medical College, 1882; died at his home in Chicago, September 21, from angina pectoris.

Pharmacology

THE DR. BRANAMAN REMEDY COMPANY

A "Deaf Cure" Mail-Order Concern Which Has Been Declared Fraudulent

G. M. Branaman, M.D., a graduate of the Medical Department of the University of Louisville, has operated a "cure for deafness" mail-order concern in Kansas City, Mo., practically continuously since his graduation in 1891. In 1905 or 1906 he opened a branch office in Omaha, which did not stay in existence very long, apparently because it was not sufficiently profitable. Branaman's concern was known as the "Doctor Branaman Remedy Company." He employed the usual mail-order medical company's method of obtaining business, that of advertising in the cheaper magazines and in (that sheet-anchor of the great American fraud) the not-too-particular religious journals. Recently the United States Government, through the Post-Office Department, investigated the company and its methods and, as a result, has declared the business conducted by Branaman to be "a scheme and device for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises." Branaman has, therefore, been deprived of the use of the United States mails by means of a fraud order. Judge Goodwin, in his memorandum as assistant attorney general to the postmaster-general, describes in detail the methods pursued by the Branaman Remedy Company, and what follows is a synopsis taken from this report.

HOW PATIENTS WERE OBTAINED

Patients—or victims—were secured by inserting, in newspapers and magazines, advertisements similar to the one reproduced on this page (Fig. 1). The drawing part of this advertisement was the offer to "send two months' medicine free" to those who applied for it. Those who answered the advertisements were sent a booklet entitled "The New Treatment That Cures," and containing testimonials and a description of Branaman's "treatment." A letter also was sent together with that inevitable adjunct of the mail-order quack—the "symptom blank." The prospective victim was asked to fill out and return the blank and was told that on doing so his case would be carefully considered and if believed to be a curable one, he would be furnished two months' medicine free. He was also told that Dr. Branaman would accept only such cases as he believed to be curable! If the symptom blank was not returned a series of follow-up "form" letters printed to imitate personal, typewritten communications was sent, each "letter" urging that the blank be filled out.

THE "FREE TREATMENT" AS A BAIT

When the victim filled out the blank and sent it to Branaman, he received a "diagnosis" letter—also of the circular letter variety, printed to imitate typewriting. At the trial it was shown by the government that Branaman had but two forms of "diagnosis" letters—one informing the patient that he had "catarrh," the other "diagnosing" the case as one of "deafness." No matter which of the two letters the patient received, he was informed that his case was far too serious a one to be cured by medicine alone, and that, therefore, there was no use in Dr. Branaman sending the two months' free treatment promised in the advertisement and circular letters. So serious was the case, he was told, that it was imperative that he have Dr. Branaman's "Combination Treatment," which involved the use of his "electro-magnetic head-cap" (Fig. 2) in conjunction with the medicines. He was further informed

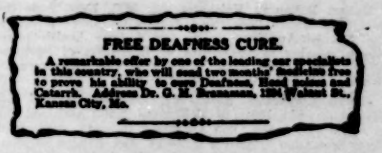
FREE DEAFNESS CURE.
A remarkable offer by one of the leading ear specialists in this country, who will send two months' medicine free to prove his ability to cure Deafness, Head noises and Catarrh. Address Dr. G. M. Branaman, 1224 Walnut St., Kansas City, Mo.

Fig. 1.—Photographic reproduction of a typical Branaman advertisement.—From *Word and Works.*

that this "combination treatment" would cure his disease and that if he would pay $8 for the head-cap the "treatment" would be sent.

If the $8 was not forthcoming, follow-up letters were sent at regular intervals until either all the letters of the series had been mailed or the $8 had been extracted. These letters, like the others, were printed to simulate personal typewritten communications, the name and address of the individual to whom they were sent being "filled in" by means of a typewriter.

CURES PROMISED IN INCURABLE CASES

In preparing the case against Branaman the government inspectors corresponded with the concern as supposed patients. Five letters were sent under different names and from widely separated parts of the country. The same number of symptom blanks were filled out and each hypothetical case described by the inspectors was one of total and incurable deafness. In spite of the impossibility of curing such cases, the inspector, in every instance, received the stereotyped request for $8, with the promise of a sure and permanent cure if it was paid. In each instance the regular "deafness" diagnosis letter was sent, followed by the follow-up series.

The inspector remitted $8 in one of the hypothetical cases and received the "electro-magnetic head-cap" and the medicines. The "head-cap" was an arrangement of straps and metal pieces to be worn by the patient and was claimed to produce a current of electricity through the ears which, it was alleged, would revivify the nerves and other structures of the ear. With the "head-cap" came some tablets, three bottles of liquid and a vaporizer for spraying the nose and throat. The drugs were analyzed by the chemists of the Department of Agriculture, who reported them as having the following composition:

TABLETS

Strychnin sulphate	1/60 gr.
Milk sugar, q. s.	1 gr.

One of these was to be taken before each meal.

EAR DROPS

Carbolic acid	3.12 per cent.
Glycerin	25.00 per cent.
Saturated solution of boric acid	71.88 per cent.

The instructions with this bottle were to put three drops of the liquid in the ear each night.

VAPORIZER LIQUID

Menthol crystals	1.18 per cent.
Camphor gum	1.18 per cent.
Thuja oil	0.03 per cent.
Petrolatum	97.61 per cent.

This was to be used as a spray for the nose and throat.

GARGLE

Bicarbonate of soda	2.91 per cent.
Powdered borax	2.91 per cent.
Carbolic acid	0.29 per cent.
Glycerin	5.09 per cent.
Burnt sugar, sufficient to color.	
Water	88.81 per cent.

The directions which went with this were: "Add 1 teaspoonful to 8 tablespoonfuls of hot water. Snuff up nose. Gargle throat night and morning, half each time."

Fig. 2.—Photographic reproductions from Branaman's booklet, "The New Treatment That Cures," showing the highly imaginative pictures of the "electro-magnetic headcap" in action.

The evidence at the trial showed that the "head-cap" cost Branaman about $1.50, the vaporizer about 30 cents and the medicines just described not over 50 cents. For this the patient paid $8.

A FRAUDULENT TESTIMONIAL

One of the testimonials published by Branaman in his booklet, "The New Treatment That Cures," purported to be from one John Turner of Kansas City, Mo. It was as follows:

"I contracted cold during the Civil War. It grew worse from year to year. Finally my eyesight began to fail; my eyes became watery; I could not distinguish a man across the street. My ears began to close and my hearing to fail. I had distracting head noises. I was worse in changeable weather. My throat was dry; my ears felt full; I could hear sounds, but could not distinguish words. Finally I got so deaf I could not hear the clock or doorbell. I went to Dr. Branaman a very skeptic man. I had no faith in doctors. I began the treatment, with excellent results. My head became clear; the noises began to subside; my eyes gained and soon I was all right; my hearing perfect."

This case was investigated by the post-office inspector, who went to Turner's house. Turner himself was not at home, but his wife said that her husband had not been benefited by the Branaman treatment, that his hearing was so bad that he did not dare to go to work in the stock yards for fear of being run over and killed from his inability to hear anything. Mrs. Turner further stated that all the inquiries her husband received regarding his cases were turned over to Branaman, Turner himself being unable either to read or to write.

THE DEFENSE AND THE CHARGE

Branaman's defense in regard to offering to cure five plainly incurable cases of deafness was that he was out of the city when some of the five cases were accepted for "treatment," and that his assistant, Dr. Perkins, must have been responsible. On cross-examination, however, Branaman retracted his previous statement as to his absence from the city on those dates.

Judge Goodwin, in his memorandum as assistant attorney-general to the postmaster-general, gave many reasons for holding the opinion that Branaman's business was a fraudulent one. They may be summarized thus:

Fraud No. 1.—Five different cases of incurable deafness from various parts of the country were accepted—and, as the evidence showed, intentionally accepted—for treatment and a promise of a sure cure made. The number indicated that it was Branaman's practice to accept such cases and to make such promises.

Fraud No. 2.—Branaman's continued publication of Turner's testimonial to the effect that his hearing was perfect and that he had been cured of deafness, when Branaman knew that Turner was so deaf as to be incapacitated for work.

Fraud No. 3.—The inducement held out in the advertisements of a "free two months' treatment" when, in fact, the intent was to obtain $8 for goods costing Branaman $1.50.

Fraud No. 4.—The representation that the case of each patient would be considered individually and that "treatment" adapted to the necessities of the specific cases would be used, when the evidence showed that the same "treatment" was sent to practically all persons sending the necessary $8.

As a result of his findings the assistant attorney general declared: "I find that the business being conducted through the post-office at Kansas City, Mo., under names of Dr. Branaman Remedy Company and Dr. J. M. Branaman, is a scheme and device for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, and I therefore recommend that a fraud order be issued prohibiting the delivery of mail and the payment of money orders to such addresses. . . ."

The order was issued.

Correspondence

The Correct Name of the Rocky Mountain Spotted-Fever Tick

To the Editor:—In a recent issue of THE JOURNAL (October 29, p. 1574) Mr. Nathan Banks charges me with "gross violation of the rules of nomenclature," in that I have used the name *Dermacentor andersoni* instead of *D. venustus* for the tick that transmits Rocky Mountain spotted fever. Although the point at issue is a very technical one, it is not without its practical side, and in order to avoid a further confusion, which would result were Mr. Banks' interpretation accepted, the following facts bearing on the case are made public:

The name *Dermacentor venustus* Marx (a manuscript name) was originally published by Neumann in 1897, as a synonym of *D. reticulatus;* its type locality was given as Texas and New Mexico.

According to "Opinion 4" of the International Commission on Zoologic Nomenclature, "manuscript names acquire standing in nomenclature when printed in connection with the provisions of Article 25, and the question as to their validity is not influenced by the fact whether such names are accepted or rejected by the author responsible for their publication."

The name *D. venustus* received status in 1897 and was not available as a new specific name eleven years later (1908), when Mr. Banks published it as such. Its status in 1897 as

given to it by Neumann is this: It is a synonym of *D. reticulatus* as interpreted by Neumann, namely, *D. reticulatus* of Europe plus specimens examined by Marx from Texas and New Mexico, plus certain other forms.

Two possibilities are present: (1) If really identical with *D. reticulatus*, the name *D. venustus* drops into synonymy and cannot be used for the spotted-fever tick. (2) The only way of separating the name from *D. reticulatus* is by finding the original specimens from Texas or New Mexico and showing that they are not identical with *D. reticulatus*.

In material recently at my disposal, I had specimens of the Marx collection labeled *Dermacentor venustus* from both Texas and New Mexico. These are the specimens on which Neumann published in 1897, and it is the Texas specimen from sheep which I designated as the type. These specimens are clearly distinct from the European *D. reticulatus*, and they represent the form which I have published as *D. venustus*.

Mr. Banks was present at a meeting of the Entomological Society, Jan. 10, 1907, when I showed drawings of the European *D. reticulatus*, and explained the differences between this and the various American forms. He also visited my laboratory for the specific purpose of examining Marx' material, and at that time the originals of *D. venustus*, *D. occidentalis* and *D. andersoni* were placed before him, together with drawings of the stigmal plates. He later (1908) published "*Dermacentor venustus* n. sp.," admitting that it was Marx' manuscript name and giving among the localities of specimens both New Mexico and Texas; these were the original localities of Marx' specimens which Dr. Banks had examined in the visit referred to and as published by Neumann.

Mr. Banks states in his recent letter that I have applied the name *D. venustus* to a form he did not study. This statement is difficult to harmonize with the fact that he examined the specimen on which I published and he quotes (Bull. 15, Bureau of Entomology, U. S. Dept. Agric., 1908, p. 47) the very specimen which I took as a type, namely, from "Texas (on sheep)."

If the name *venustus* dates from 1908 (as Mr. Banks claims) instead of from 1897 (as I maintain), it is now clear that Mr. Banks' description must include three sets of type specimens, namely, Marx' original material of *D. venustus*, my original type of *D. andersoni*, and the material which Mr. Banks has informed me he has selected as type, but which he also said was not from Marx' collection.

In adopting *venustus* for Marx' Texas form I have taken the only way I see open to preserve the name in question (a name proposed by a deceased colleague), namely, by attaching it to the material published in 1897. This eliminated the name *venustus* from the spotted-fever tick, for which the manuscript name *D. andersoni* had already been published and which was therefore retained.

Were the premise correct, that Marx' specimens from Texas and New Mexico are identical with the specimens from Montana, then *D. venustus* would of necessity be the correct name for the Rocky Mountain spotted-fever tick, but this premise is erroneous, and the name *venustus* must be applied to the species containing the original specimen designated under this name.

CHARLES WARDELL STILES, U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Offer to Medical Libraries

To the Editor:—The year 1898 will be known in the annals of medicine by an epoch-making event. In that year *Libraries*, a bi-monthly publication devoted to the interests of medical libraries, first saw the light of day in the city of Denver. For several years it made its irregular and spasmodic appearance and closed its career in a blaze of glory A.D. 1902. Its circulation reached the astounding number of 120. What it lacked in numbers it made up in quality. Among its admirers, subscribers and contributors it counted the foremost librarians of the day—Dana, Fletcher, Chenley, Billings, Grace Bryant, Fisher, Parsons, Dudley, Beer, Aheren, Putnam, Bowker, Meyers, Utley, Bowen, Noyes, Crunden, Chase, Dewey, Merrill, and the medical luminaries—Osler, Chadwick, Keen, Da Costa, Musser, Simmons, Edward Jackson, Hare, Horatio Wood, Solis-Cohen, Hutchinson, Gould, Dock, Senn, Bonney, Solly, Shattuck, Bayard Holmes, Jacobi, Wilson, Sewall, Eskridge and many other makers and lovers of books.

Now comes the proud editor and publisher of said defunct periodical and offers to send to all medical librarians and to all who are interested in freak medical journalism complete sets of Volumes 2, 3 and 4 and incomplete sets of Volumes 1 and 5 for the asking, as long as the supply lasts. All the said sad editor asks in return is that these, his dear departed ones, be reverently laid out, decently shrouded, adequately coffined, properly epitaphed, securely inhumed and unostentatiously gathered unto their fathers in God's acre. He devoutly and prayerfully hopes for their resurrection.

C. D. SPIVAK, M.D., 1421 Court Place, Denver.

Removal of Moles, Warts and Other Benign Growths

To the Editor:—Dr. J. C. Bloodgood, in his article on "Surgical Treatment of Cutaneous Malignant Growths" (THE JOURNAL, Nov. 5, 1910, p. 1615), asserts that he was "the first, or at least one of the first, to call attention to the importance of removal of certain forms of benign growths, pigmented moles, some seven years ago." I wish to call attention to the fact that Dr. S. H. Weeks, of Portland, Maine, professor in surgery in Bowdoin College, taught the importance of removal of moles, warts, etc., as soon as seen by the surgeon, as long ago as 1895 and 1896; thus he had priority of Dr. Bloodgood by seven or eight years.

O. I. BEMIS, Bangor, Maine.

Prevention of Perforation in Submucous Resection of the Nasal Septum

To the Editor:—Permit me to offer a suggestion in connection with Dr. Nelson's method of preventing a perforation in submucous resection (THE JOURNAL, Nov. 19, 1910, p. 1875): Incise the mucous membrane and perichondrium at B instead of at A and retract. Then dissect forward the tissue anterior to the incision and incise the cartilage at A. This allows the flap from B to A to cover the stump of cartilage. If this is not done the incised membrane undergoes cicatricial retraction and leaves a dry and crusted surface, besides delaying healing.

ALBERT BARDES, New York.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Nov. 19, 1910.

Davis, W. Cole, lieutenant, November 11, left Fort Ethan Allen, Vt., on ten days' leave of absence.

La Garde, Louis A., colonel, November 13, left army medical school, Washington, D. C., on ten days' leave of absence.

Lowe, Thomas S., M.R.C., Nov. 8, left Presidio of Monterey, Cal., for temporary duty at Whipple Barracks, Ariz.

Long, Charles J., D.S., November 11, leave of absence extended twenty days.

Stone, John H., major, November 12, relieved from duty at Fort Sam Houston, Texas, and ordered to Fort McIntosh, Texas, for duty.

Grubbs, Robert B., major, November 12, relieved from duty at Fort McIntosh, Texas, and ordered to Fort Bliss, Texas, for duty.

Dutcher, B. H., major, Nov. 14, 1910, leave of absence further extended twenty-eight days.

Mason, George L., D.S., November 14, left from temporary duty at Fort Lincoln, N. Dak., and en route to Fort Yellowstone, Wyo.

Woodall, William P., captain, November 14, left Fort D. A. Russell, Wyo., on fifteen days' leave of absence.

Patterson, Robert F., D.S., November 15, relieved from duty at Fort Sheridan, Ill., and ordered to the Philippine Islands for duty on transport sailing from San Francisco about Feb. 15, 1910.

Bernheim, Julian R., D.S., November 15, relieved from duty in the Philippine Islands and ordered to proceed to San Francisco on the transport sailing from Manila, P. I., about March 15, 1910. On expiration of his leave of absence will proceed to Fort Sheridan, Ill., for duty at that station.

Tasker, Arthur N., lieutenant, November 15, granted leave of absence for one month and fifteen days.

Walker, Thomas C., M.R.C., November 16, leave of absence extended twenty days.

Phillips, Hiram A., lieutenant, November 16, ordered to proceed to Fort Andrews, Mass., for duty at that station.

Ingalls, R. E., D.S., November 9, granted ten days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Nov. 19, 1910.

Shook, F. M., P. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to duty at the naval hospital, New York.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 16, 1910.

Gassaway, J. M., surgeon, leave granted Oct. 14, 1910, amended to twenty-four days from Oct. 7, 1910.

White, J. H., surgeon, granted ten days' leave of absence from Nov. 11, 1910.

Nydegger, J. A., surgeon, granted one month's leave of absence from Nov. 10, 1910, on account of sickness.

Sprague, E. K., surgeon, leave of absence granted Oct. 14, 1910, amended to read four days from Oct. 28, 1910.

Grubbs, S. B., P. A. surgeon, granted twenty-one days' leave of absence from Nov. 7, 1910, on account of sickness.

Foster, M. H., P. A. surgeon, granted seven days' leave of absence from Oct. 3, 1910, under paragraph 191, Service Regulations.

Korn, W. A., P. A. surgeon, directed to proceed to Pittsburg, on special temporary duty, Nov. 7, 1910.

Earle, B. H., P. A. surgeon, granted three days' leave of absence en route to station.

Roberts, Norman, P. A. surgeon, granted two days' leave of absence from Nov. 7, 1910, under paragraph 191, Service Regulations.

Smith, F. C., P. A. surgeon, granted seven days' leave of absence from Nov. 3, 1910, under paragraph 191, Service Regulations.

Spratt, R. D., P. A. surgeon, granted seven days' leave of absence from Oct. 14, 1910, under paragraph 191, Service Regulations.

Coffee, Joseph H., acting asst.-surgeon, granted ten days' leave of absence from Nov. 5, 1910.

Schuster, B. L., acting asst.-surgeon, granted twenty-two days' leave of absence from Nov. 7, 1910.

Stuart, A. F., acting asst.-surgeon, leave of absence granted for thirty days from Oct. 1, 1910, amended to read thirty days from Oct. 4.

Walker, T. D., acting asst.-surgeon, granted eleven days' leave of absence with pay and one day's leave without pay from Nov. 7, 1910.

White, R. C., acting asst.-surgeon, granted thirty days' leave of absence from Nov. 7, 1910.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SODIUM CITRATE IN FURUNCULOSIS

To the Editor:—Will you kindly refer me to literature on the subject of Wright's treatment of suppurating lesions (as furuncles) by the use of solutions of sodium citrate and sodium chlorid?

J. L. L.

ANSWER.—We are unable to find any reference in recent literature to the use of sodium citrate in furunculosis. Sir A. E. Wright recommends vaccine treatment with staphylococcus vaccine guided by the determination of the opsonic index. He has recommended citrate of sodium for the purpose of preventing thrombosis in typhoid fever. Perhaps it is this use of sodium citrate that our correspondent has in mind.

HYPNOTISM AND SUGGESTIVE THERAPEUTICS

To the Editor:—Please answer the following questions:

1. Do you consider the subject of hypnotism of much value in the psychoneuroses?

2. Would it be worth while for a general practitioner to acquaint himself with the subject of hypnosis?

3. Can you refer me to literature on hypnotism and suggestive therapeutics?

W. B. N., Anderson, S. C.

ANSWER.—1. In competent hands, hypnotism must be regarded as a valuable therapeutic procedure for a large number of the psychoneuroses, especially those of a severe or complicated type. In many cases, however, the same results can be obtained by the methods of waking suggestion and by persuasion.

2. Before resorting to hypnotism, the general practitioner should thoroughly acquaint himself with the methods of suggestion and persuasion which do not involve hypnosis. For such purpose the methods of persuasion advocated by DuBois are valuable, and a thorough study of his book is recommended. Suggestion in the hypnoidal state as recommended by B. Sidis (*Journal Abnormal Psychology*, July, 1909; also *Monthly Cyclopedia and Medical Bulletin*, August, 1909) can be employed, and in general is to be preferred to hypnotism for a practitioner who is not an expert in the latter art. If hypnotism is undertaken, Barker's suggestion that a third person should be present is worth remembering.

3. The following works may be considered representative:

Bernheim: Suggestive Therapeutics, G. P. Putnam's Sons, New York; $3.50.

Bramwell, M.: Hypnotism, Its History and Practice, Alex. Morling, London.

Bramwell, M.: Hypnotism and Treatment by Suggestion, Funk & Wagnalls Co., New York; $1.75.

Dercum: Rest, Suggestion, Mental Therapeutics, P. Blakiston's Son & Co., Philadelphia.

DuBois: Psychic Treatment of Nervous Disorders, Funk & Wagnalls Co., New York; $3.

Forel: Hypnotism, or Suggestion and Psychotherapy, Rebman Co., New York; $3.

Heysinger, Isaac W.: Spirit and Matter Before the Bar of Modern Science, T. Werner Laurie, London, 1910; pp. 433; 15 shillings.

Hollander, Bernard: Hypnotism and Suggestion, Sir Isaac Pitman & Sons, London, 1910; pp. 296; 6 shillings.

Mason, O.: Hypnotism and Suggestion, H. Holt, New York; $1.50.

Moll, A.: Hypnotism, Charles Scribner's Sons, New York; $1.50.

Monro: Handbook of Suggestive Therapeutics, Applied Hypnotism and Psychic Science, Mosby Medical Book Co., St. Louis; $3.

Münsterberg, Hugo: Psychotherapy, T. Fisher Unwin, London; pp. 413; 8 shillings, 6 pence.

Prince, Morton: Psychotherapeutics, a Symposium, T. Fisher Unwin, London, 1910; pp. 204; 4 shillings, 6 pence net.

Schofield: Force of Mind, or the Mental Factor in Medicine, P. Blakiston's Sons & Co., Philadelphia; $2.

Schofield: The Unconscious Mind, Funk & Wagnalls Co., New York; $2.

Schofield: Unconscious Therapeutics, P. Blakiston's Sons & Co., Philadelphia; $1.50.

Sidis: Psychology of Suggestion, a Research into the Subconscious Nature of Man and Society, D. Appleton & Co., New York; $1.75.

Sidis: Hypnoidal Psychotherapy, Moffat, Yard & Co., New York; $2.

Tuckey, C. L.: Hypnotic Suggestion, G. P. Putnam's Sons, New York; $3.

Wingfield, H. E.: An Introduction to the Study of Hypnotism, Bailliere, Tindall & Cox, London, 1910; pp. 175; 5 shillings net.

Zieben, T.: Introduction to Physiological Psychology, Macmillan Company, New York; $1.50.

CHANCRE AND CHANCROID

To the Editor:—Please differentiate briefly between chancre and chancroid, describing the appearance and progress of each, within a month from infection on the labia of the female. In such a case, under which head would you class a painful, swollen, suppurating sore which is spreading rapidly? Do chancre and chancroid both come under the head of syphilis? If not, please indicate the treatment for the latter.

W. G. L.

ANSWER.—A chancre is the initial lesion of syphilis, and is due to the action of *Treponema pallidum*. It appears about twenty days after infection and is generally single. It usually consists of a small papule, which may ulcerate, but which produces little pus and does not tend to spread beyond its point of origin. Its secretions do not produce similar lesions in other parts of the skin of the same patient, *i. e.*, it is not auto-inoculable. The base and surroundings of the ulcer are usually of a marked hardness, but it is not painful. It leads to a general enlargement of all of the lymphatic glands, which shows no tendency to suppuration but is very persistent. Usually in the course of a month or six weeks the chancre heals, leaving ordinarily a slight scar, but it may persist longer. Spirochetes (treponemata) can be demonstrated in the secretions from a chancre and the Wassermann reaction is positive in the latter part of its course.

A chancroid is a local lesion, believed to be due to a streptobacillus discovered by Ducrey, which ulcerates rapidly, is painful, spreads extensively, produces much pus and is auto-inoculable. It appears in two or three days after infection and is frequently multiple. Only the lymphatic glands adjacent to the area of infection become enlarged, but they soon break down, forming a bubo. The base of the chancroid is not indurated. The chancroid leads to no specific constitutional affection, but may produce septicemia. It does not contain treponemata and does not give the Wassermann reaction. While chancroid has no relation to syphilis, it may accompany and conceal the initial syphilitic lesion. In spite of its local character, a chancroid may pursue a chronic course and undermine the general health, producing a severe cachexia.

The ulcer described is probably a chancroid. The part should be carefully cleansed and the surrounding skin or mucous membrane should be protected as carefully as possible against auto-inocula-

tion. A local anesthetic, like cocain, should be applied before cauterizing. The best caustic is probably the application of the thermal or galvanocautery, but if this is not available, chemical caustics may be used. The best is fuming nitric acid. A preliminary application of pure phenol (carbolic acid) may be made, by which the sensitiveness of the ulcerated surface is diminished. The phenol should be carefully removed by wiping with absorbent cotton. Then an application of pure nitric acid should be made to the surface of the ulcer. The careful removal of the phenol is essential, as there may be danger of nitric acid and phenol forming an explosive compound. When the slough has separated the resulting ulcer should be treated like any other ulcer by strictly aseptic methods. The general health should be cared for by appropriate hygienic measures and supporting medicinal agents.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

MEDICAL EXPERT TESTIMONY

The problem of medical expert testimony is one which confronts both the medical and the legal professions. Neither physicians nor lawyers alone can solve it. The only hope for its equitable adjustment lies in cooperation between the two professions. As was remarked editorially last week, this fact has been realized in Missouri by both the medical profession and the bar, and the result has been the appointment of a joint committee on medical expert testimony from the Missouri State Medical Association and the Missouri Bar Association. This committee, recognizing that the present situation in most states is absurd and grotesque, has drafted a bill amending the Missouri statutes in the hope of improving the procedure in legal battles in which medical expert testimony is necessary.

Previous efforts in this direction in other states are interesting. In only two states, Michigan and Rhode Island, have laws on this subject been enacted. The Michigan statute endeavors to regulate the abuse of medical expert testimony by removing the incentive of large fees, and provides that no expert witness shall receive as compensation in any given case a sum in excess of the ordinary witness fees, unless the court awards a larger sum. It also provides that not more than three experts shall be allowed to testify on either side as to the same issue, and that in trials for murder, in which expert opinions are required, the court shall appoint one or more suitable persons, not exceeding three, to investigate the issues involved and to testify at the trial, compensation for these experts to be fixed by the court and paid by the county. This provision takes the summoning of expert witnesses out of the hands of lawyers for the defense and also limits the amount of money which can be spent for such purposes.

The Rhode Island statute provides that any justice of the superior court may, in either a civil or criminal case, on the motion of either side, appoint one or more persons as expert witnesses. The amount of compensation for such witnesses is fixed by the court but paid by the party asking for their appointment. Such witnesses report their findings in writing to the court and their report forms part of the record of the case and may be produced in evidence at the trial. The expert witnesses are required to attend the trial and they may be cross-examined by either side. In personal injury suits, the court is authorized to require a physical examination of the plaintiff.

At the last session of the legislatures in Maine and New York, bills to regulate expert evidence were introduced but failed to pass. The Maine bill provided that the judge in any superior court might, on his own initiative, appoint one or more experts to investigate the questions at issue, who should prepare themselves to testify in relation thereto, if called on. Such experts, after having been appointed, might be called as witnesses by either side or by the court and when so called would be subject to full examination and cross-examination. Their compensation was to be fixed by the court. The New York bill provided that the justice of the supreme court should designate at least ten and not more than sixty physicians in each judicial district who might be called as medical expert witnesses by the court or by either party to a civil or criminal action in any of the courts of the state, and that such physicians when so called should testify and be subject to examination and cross-examination, and their compensation be fixed by the trial judge and paid by the county in which the trial was held. An additional section specifically provided that either of the parties in the case should have the right to call other expert witnesses, as at present.

The proposed bill in Missouri provides that any judge of any court of record in hearing any case, either civil or criminal, shall "on his own motion or that of any party therein, at any time or during the trial thereof when the ends of justice seem to require it," appoint one or more expert witnesses whose fees should be fixed by the judge and paid by the party moving for their appointment. In criminal cases, on request of the defendant, expert witnesses may be furnished at the expense of the state at the discretion of the court. Such witnesses shall be sworn to make a faithful and impartial examination of the matter submitted to them for investigation and shall report their findings in writing, such report to be filed, not as evidence, but as a basis for the examination of the expert witnesses by the court or by the counsel for either party. It will be noted that the proposed law in Missouri differs from the Rhode Island statute in that, in Rhode Island, the report of the expert witnesses is made a part of the evidence in the case. The Missouri bill further provides that either party to the cause shall have the right of examination and cross-examination. In civil suits for damages following personal injury, the judge may require the plaintiff to submit to a reasonable examination by an expert appointed by the court. The court may also require the defendant to permit of the examination of the place and cause of the injury by experts appointed by the court. Compensation is limited to ordinary witness fees, except by order of the court, and the receipt or payment of any larger sum is made a misdemeanor punishable by a fine not exceeding $1,000, or imprisonment not exceeding one year, or both.

It is evident, from the two laws enacted and those proposed, that the regulation of compensation for expert testimony is regarded as one of the most important means of correcting existing abuse. The appointment of expert witnesses by the court is unquestionally a step in the right direction. Whether the report of such witnesses should be regarded as evidence or merely as a basis for examination is for those familiar with the rules of evidence to determine. The limiting of expert witnesses to those selected by the court, and the provision for a written report on the questions at issue, should go far toward eliminating the self-constituted "expert" who, oftentimes without adequate professional knowledge or standing, and animated mainly by a desire for large fees, can be secured in almost any case to testify to nearly anything which partisan advocates may desire.

In this connection, the resolutions adopted by the Committee on Medical Expert Testimony of the American Medico-Psychological Association, which recently appeared in the *American Journal of Insanity*, are of interest. The committee's declarations relate mainly to medical expert testimony in cases in which insanity is pleaded as a defense. They are:

1. The proved rarity of wrong acquittals on the ground of insanity is the strongest evidence that the abuse of the insanity plea in criminal cases has been unwarrantably exaggerated.

2. The insanity plea is not raised as often as it should be to prevent the frequent miscarriage of justice arising from the conviction and imprisonment of insane persons whose true mental condition has not been recognized.

3. The abuses which have crept into the method of presenting medical expert testimony have been largely the result of established legal tests and proceedings, although their correction does not require radical change in the laws.

4. Inaccessibility of the evidence on both sides of the case is the chief cause of defective medical testimony.

5. Whenever possible the medical witness should not testify unless he has had an opportunity to make both a mental and physical examination of the person in whose behalf the plea of insanity is raised.

6. We consider the hypothetical question as ordinarily presented to be unscientific, misleading and dangerous to medical repute, and that the evidence on both sides should always be included in its presentation to the medical witnesses.

7. In all criminal cases, absolutely equal rights should be accorded the medical witnesses for both the prosecution and the defense for the examination of the person alleged to be insane.

8. In our judgment the judiciary should by legal enactment be allowed more latitude in enlightening the jury and enabling it to comprehend the nature and meaning of the medical testimony laid before it.

9. We recommend as advisable the adoption, wherever possible, of the so-called Leeds method of preliminary consultation by medical witnesses on both sides of the case as to its status.

10. We advocate a freer use of appointments of commissions by the court.

11. A period of hospital observation of all persons committing crimes in whose defense the plea of insanity has been raised is by far the best method yet devised for securing impartial and accurate opinions, silencing popular clamor, avoiding prolonged and sensational trials and saving expense to the state; we also advocate the enactment in every state of laws similar to those of Maine, New Hampshire, Vermont and Massachusetts, providing that such persons may be committed by the court to a state hospital for the insane, there to remain for such time as the court may direct, pending the determination of their insanity.

12. It is the sense of the association that it is subversive of the dignity of the medical profession for any of its members to occupy the position of medical advisory counsel in open court, and at the same time to act as expert witness in a medicolegal case.

13. We regard the acceptance by a physician of a fee that is contingent on the result of a medicolegal case as not in accordance with medical ethics and derogatory to the good repute of the profession, and advocate the regulation of the practice by legislation.

14. We are in favor of any legislation that will secure a definite standard of qualification for medical men giving expert testimony.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month—Third Weekly Meeting

TUBERCULOUS DISEASE OF THE SPINE

PATHOLOGY

Pathology of the tubercle. Changes in body of the vertebræ; of the processes. Secondary changes in bony structures, kyphosis, resulting deformities. Process of repair. Abscess formation. Changes in spinal cord, membranes and nerves.

SYMPTOMS

Attitude: Movements of body, attitude when different regions are affected, rigidity of spine.

Pain: Cause, location, diagnostic value. Eye symptoms, cough, dyspnea.

Deformity: Angularity.

Abscess: Location, pointing, prognosis.

Paralysis: Location, partial or complete, reflexes, sphincters.

TREATMENT

GENERAL TREATMENT: Fresh air, sunshine, diet, medicinal treatment.

LOCAL TREATMENT: 1. Bed treatment, indications, appliances. 2. Ambulatory treatment by jackets and braces; indications, detail methods of application, appliances used for deformities in different regions.

Treatment of abscesses: Expectancy, aspiration, incision.

Treatment of paralysis.

Treatment of diseased vertebræ.

State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 6-9. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg., San Francisco.

DELAWARE: Regular, Dover, December 13-15; Homeopathic, Wilmington, December 13-15. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

KENTUCKY: Louisville, December 15-17. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, December 13-16. Sec., Dr. J. McPherson Scott, Hagerstown.

OHIO: Cincinnati, December 6-8. Sec., Dr. George H. Matson, State House, Columbus.

PENNSYLVANIA: Regular and Homeopathic, Philadelphia, December 6-9; Eclectic, Harrisburg, December 6-9. Secretary of the Medical Council, Dr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, Dec. 20-23. Sec., Dr. R. S. Martin, Stuart.

New Jersey June Report

Dr. H. G. Norton, secretary of the New Jersey State Board of Medical Examiners, reports the written examination held at Trenton, June 21-23, 1910. The number of subjects examined in was 9; total number of questions asked, 135; percentage required to pass, 75. The total number of candidates examined was 41, of whom 34 passed and 7 failed. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Johns Hopkins University	(1910)	83.7, 88.6
College of Physicians and Surgeons, Baltimore	(1910)	78.1, 81.9
Harvard Medical School	(1908)	82.4
Columbia University, College of Physicians and Surgeons	(1902) 91; (1910) 84.2.	
New York Homeopathic Med. College and Hospital	(1907)	78.5
University of Pennsylvania	(1896) 79.7; (1903) 78.5; (1905) 81, 83.6, 83.8; (1907) 88.2; (1910) 78.6, 80.4, 80.5, 80.8.	
Jefferson Medical College	(1905) 78.1, 85.9; (1908) 83.9; (1909) 76.6; (1910) 83.9, 84.2, 84.3, 84.5.	
Hahnemann Med. College and Hospital, Philadelphia	(1910)	78.6, 86
Medico-Chirurgical College, Philadelphia	(1910)	88.2
Woman's Medical College of Pennsylvania	(1910) 80.5, 81.1, 84.7.	
University College of Medicine, Richmond	(1909) 79.5; (1909) 77.9.	

FAILED

Baltimore Medical College	(1908)	70.6
Univ. of Michigan, Coll. of Medicine and Surgery	(1880)	68.2
Long Island College Hospital	(1909)	72.1
Medico-Chirurgical College, Philadelphia	(1897)	70.3
Hahnemann Med. College and Hospital, Philadelphia	(1908)	72.8
University College of Medicine, Richmond	(1910)	72.7
Royal University of Naples, Italy	(1896)	72.1

The following questions were asked:

[Answer any ten questions on each paper, but no more.]

ANATOMY

1. Describe the coccyx. Name the muscles attached to it. 2. Describe the ileocecal valve. What is its function? 3. Give the coverings of a femoral hernia from within outward. 4. Give the minute structure of the kidney. 5. Describe the inferior radio-ulnar articulation. 6. Enumerate the suprarenal glands. State their function. What would be the effect of their removal? 7. Describe the glands and villi of the intestines. 8. Give the foramen of exit, the distribution and the function of the oculomotor nerve. 9. Where does the glossopharyngeal nerve rise and what structures are supplied by this nerve and its branches? 10. Locate and describe the lymphatics of the front of the thorax. 11. Give the origin, course and branches of the temporal artery. 12. Name the principal centers of organic function in the medulla oblongata. 13. Locate the respiratory center. 14. From what portions of the cortex cerebri do the arm, face and leg receive their motor impulses? 15. What would be the effect of a transverse section of (a) the anterior root, (b) the posterior root of a spinal nerve?

HISTOLOGY—PATHOLOGY—BACTERIOLOGY

1. Describe the rôle of uric acid in gout. 2. Give etiology of valvular heart disease. 3. How does aortic insufficiency affect the circulation of the blood? 4. Define anemia. 5. Define immunity. 6. Describe a microscope and such accessories as you would use in histologic work. 7. Describe preparation of objects for microscopic examination. 8. Describe the cell body. 9. Describe the process of miltotic cell division. 10. Define chromatolysis. 11. What are bacteriolysins? 12. What is the effect of an injection of bacterial vaccine? 13. Describe preparation of and varieties of culture media. 14. Give technic of making plate cultures. 15. Give method of examining sputum for detection of tubercle bacilli.

CHEMISTRY

1. Discuss arsenic and mention its properties, uses and compounds. Give antidote for poisoning by arsenic. 2. Name three elements in the potassium group with their symbols and atomic weights. 3. Give the symbol and quantivalence of sulphur. What are the principal oxygen compounds of sulphur? In what form is it

used as a germicidal and disinfecting agent? 4. (a) State the normal reaction of urine. (b) To what is it due? (c) State the variations in normal specific gravity. (d) What pathologic conditions are indicated by a very high or a very low specific gravity? 5. Give the chemical formula and derivation of acetic acid. Mention the most important acetates. 6. Give the names and formulas of three gases used for producing general anesthesia. 7. What are enzymes? Mention those of animal origin and where found. 8. Give test for the detection of bile in the urine. 9. Which are the principal optum alkaloids and with what acid are they combined in opium? 10. What is cholesterin? In what pathologic condition is it found? 11. Give the chemical formulas and common names of magnesium hydrate and magnesium sulphate. 12. (a) What is tartar emetic? (b) What are the symptoms of poisoning by tartar emetic? 13. (a) What is hemoglobin? (b) In what pathologic condition is hemoglobin found in the urine? 14. (a) What is the ammonium radical? (b) Give chemical formula of the ammonium compound contained in aromatic spirit of ammonia. 15. (a) Give the source and chemical formula of common salt. (b) How are chlorids chemically recognized in urinalysis?

HYGIENE AND MEDICAL JURISPRUDENCE

1. Describe the methods usually employed for the sterilization of drinking water. 2. (a) What conditions of soil tend to promote health? (b) What conditions tend to impair health? 3. State (a) the main source of infection in tuberculosis; (b) what personal hygienic measures may be employed to prevent its spread? (c) what disinfectants and what method of application will tend to prevent house infection? 4. Outline in detail the precautions that should be taken in the treatment in scarlet fever to prevent the spread of the disease. 5. What diseases spread by infection from person to person? 6. What temperature should be maintained in the sick room in the treatment of (a) croup, (b) pneumonia, (c) typhoid fever? 7. Name the diseases regarded as quarantinable. 8. Define food and name two which are in themselves complete or perfect foods. 9. What are the legal obligations between physicians and patient? 10. What are the essentials of a thorough medical examination of an applant for life insurance? 11. What is the value of expert medical testimony? 12. Name the post-mortem signs external and internal of recent drowning. 13. In signing a certificate of insanity what facts relating to the patient should be recorded? 14. Define a wound in its medicolegal sense. 15. In witnessing a will, what facts should satisfy the physician as to the mental competency of the testator?

MATERIA MEDICA AND THERAPEUTICS

1. Name (a) the source, (b) the preparations, and (c) the effects of ergot. 2. Differentiate the symptoms of atropin and morphin poisoning. 3. (a) By what drug, and (b) by what method may local anesthesia be induced? 4. Explain the theory of the action of antitoxin. 5. (a) Mention five preparations having antiseptic properties; (b) Give adult dose of each. 6. Describe (a) the method of administration, (b) the results to be accomplished by the hot pack. 7. State (a) the source, (b) the action, and (c) the therapeutic uses of strychnin. 8. (a) What remedies may be used in septic condition of the alimentary canal? (b) Give dose of each. 9. Outline a dietary in (a) chronic rheumatism, and (b) chronic interstitial nephritis. 10. Write a prescription for any ailment in which lodid of potassium may be used. 11. Specify (a) three official preparations of aconite; (b) adult dose of each. 12. Give (a) the source, (b) the physiological action, and (c) the infantile dose of santonin. 13. (a) Prescribe in proper form for diarrhea in a child 4 years of age; (b) Explain the action of each ingredient. 14. Give (a) the therapeutic uses, and (b) the adult dose of terebeine. 15. Define (a) alteratives, (b) antipyretics, and (c) mydriatics.

HOMEOPATHIC MATERIA MEDICA

Give characteristic indications for: 1. Hepar in corneal ulcers. 2. Aconite in facial neuralgia. 3. Arsenicum iodid in coryza. Compare: 4. Causticum and bryonia in aphonia. 5. Silica and aurum in bone disease. 6. Nux and alumina in constipation. 7. Ipecac and natrium mur. in malaria. Name five remedies prominently acne and give the characteristic of one in: 8. Skin diseases. 9. Typhoid. 10. Acute nephritis. 11. Apoplexy. 12. What is a homeopathic prescription. 13. Define the similimum. 14. Give three essentials of a homeopathic prescription. 15. Give treatment for renal calculus.

OBSTETRICS AND GYNECOLOGY

1. Give a comparative description of the virgin uterus and the uterus after child-bearing. 2. State procedure in case the head refuses to engage the pelvic brim. 3. How may rupture of the uterus complicating delivery be recognized? How should such a condition be managed? Under what circumstances during labor may obstetric anesthesia become advisable? Mention an appropriate anesthetic and describe the method of administration. 5. What may cause delay in the second stage of labor? How should such a condition be managed? 6. What are three most dangerous forms of uterine hemorrhage? 7. Outline your treatment of the foregoing types of uterine hemorrhage. 8. Describe toxemia of pregnancy and state what may be done to prevent or to relieve this condition. 9. Under what circumstances is induction of abortion permissible and how is it safely performed? 10. Name the varieties of salpingitis and give briefly the etiology and diagnosis. 11. What are the causes of pelvic abscess? Describe method of surgical treatment. 12. Mention the causes and state the management of cystitis in the female. 13. Mention the prodromal symptoms of puerperal eclampsia. Describe the management of puerperal eclampsia. 14. Give the causes, diagnosis and treatment of prolapse of the ovary. 15. What is ophthalmia neonatorum? How prevented? How cured?

PRACTICE OF MEDICINE

Differentiate: 1. Acute pericarditis and acute endocarditis. 2. Apoplexy and acute alcoholism. 3. Cancer and ulcer of stomach. 4. Chancre and chancroid. 5. Diabetes and acute glycosuria. 6. Epilepsy and hysteria. 7. Hemoptysis and hematemesis. 8. Intestinal and hepatic colic. 9. Organic and functional heart disease. 10. Pneumonia and pleurisy with effusion. 11. Pyelitis and cystitis. 12. Scurvy and purpura. 13. Typhoid fever and acute tuberculosis. 14. Edema glottidis and retro-pharyngeal abscess. 15 Cerebral concussion and cerebral compression.

SURGERY

1. Give diagnosis and treatment of intracapsular fracture of the femur. 2. Give technic of posterior gastro-enterostomy. 3. Etiology and treatment of senile gangrene. 4. Give causes, symptoms and treatment of phlebitis. 5. Mention the causes of non-union of fractures. 6. Give causes, diagnosis and treatment of abscess of the liver. 7. How would you treat a penetrating wound of the trachea? 8. Describe acute suppurative osteomyelitis of the tibia. 9. Gonorrheal arthritis; diagnosis and treatment. 10. Differentiate between fracture of the neck of humerus and subcoracoid dislocation. 11. Discuss etiology of thrombosis. 12. Symptoms and treatment of acute pancreatitis. 13. Diagnosis of floating kidney. 14. Mention the conditions that may necessitate amputation of an extremity. 15. Etiology and treatment of cystitis.

South Dakota July Report

Dr. F. W. Freyberg, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Lead, July 13-14, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 32, of whom 26 passed and 6 failed. The following colleges were represented:

PASSED			
College	Year Grad.		Total No. Examined.
George Washington University	(1908)		1
Rush Medical College	(1895)	(1907)	3
Northwestern Univ. Medical School	(2,1909)	(2, 1910)	4
Coll. of P. & S., Chicago	(1901)	(1907) (1909) (3, 1910)	6
Chicago Homeopathic Medical College	(1894)		1
Bennett Medical College, Chicago	(1909)		1
Univ. of Iowa, Coll. of Medicine and Surgery	(1903)		1
Univ. of Minn., Coll. of M. & S.	(1908)	(1909) (1910)	3
Hamline University	(1908)		1
Creighton Medical College	(1908)		1
Syracuse University	(1910)		1
Eclectic Medical Institute, Cincinnati	(1897)	(1907)	2
Queen's University, Kingston, Ontario	(1908)		1

FAILED	
Bennett Medical College	(1909) 1
Hahnemann Med. Coll. and Hospital, Chicago	(1901) 1
Medical College of Indiana	(1892) 1
Drake University	(1902) 1
Sioux City College of Medicine	(1896) 1
Bellevue Hospital Medical College	(1892) 1

The following questions were asked:

OBSTETRICS

1. At what stage can you make a positive diagnosis of pregnancy? Give findings. 2. Give the most important features in the management of a breech presentation. 3. Describe fully the indications for and the application of forceps. 4. Describe the four most common positions of the fetus during pregnancy. 5. Give your treatment of a two and one-half months' pregnancy with adherent retroversion. 6. How would you treat a labor, with child in normal position, inefficient, distressing pains having been in progress twelve hours, with no apparent dilatation? 7. What is adherent placenta and your method for removal of same? 8. Give directions for care of mother during the lying-in period. 9. When should you repair a lacerated perineum? 10. With the head down on the perineum and severe labor pains with prospect of laceration, what is the proper method to pursue?

EYE, EAR, NOSE AND THROAT

1. Describe and give treatment for dacryocystitis. 2. Discuss corneal ulcer, giving etiology, prognosis and treatment. 3. Define astigmatism, synechia, hypopyon, myopia, epiphora. 4. Diagnose and treat a case of (a) iritis; (b) pterygium. 5. Treat a severe puncture of the eyeball. 6. Give symptoms and treatment of hypertrophied turbinated bodies. 7. Give treatment for purulent inflammation of middle ear. What dangers are apprehended? 8. Discuss the relation of adenoid vegetation and otitis media in children. 9. Give four common symptoms caused by nasal obstruction. 10. Give anatomy of larynx and treat a case of laryngitis.

CHEMISTRY

1. Define an element, an atom, a molecule, chemical force. 2. State the proportions of the chief constituents of the atmosphere. What action is produced on air by animals? By plants? 3. What are deodorizers? Disinfectants? Antiseptics? Give an example of each. 4. Give a test for sugar in urine. Determine the quantity by the fermentation test. 5. Name three alkaloidal poisons. Give antidotes.

PATHOLOGY

1. Define anemia, pyemia, bacteriemia. 2. Name the paths of bacterial infection; the paths of extension. 3. What changes may a simple (non-infected) thrombus undergo? 4. Name the various degenerations; give examples of two. 5. Give the pathology of phlebitis. 6. Describe the changes in the pleura in the various stages of pleuritis. 7. What is the pathology of Addison's disease? 8. Name the causes and give the morbid anatomy of acute poliomyelitis. 9. Give the pathology of tuberculosis of the hip joint. 10. What are antibodies?

DISEASES OF WOMEN

1. What are the sequences of gonorrhea on the female? 2. Vaginismus—name causes, give treatment. 3. How do you treat endometritis? 4. Abscess of Cowper's gland—cause and treatment. 5. Differentiate salpingitis and pyosalpinx; chancre and cancer of os uteri.

SURGERY

1. Differentiate first, second, third degree burns and give treatment of each. 2. Define, diagnose and give treatment of shock. 3. Diagnose and treat post-operative hemorrhage. 4. Give differential diagnosis of cholelithiasis, carcinoma of the stomach and duodenal ulcer. 5. Diagnose and give treatment of fracture of patella 6.

Diagnose and give treatment of Colles' fracture. 7. Outline treatment of gunshot wound; point of entrance of bullet anterior portion of chest at eighth rib, right side, general direction inward and downward, no point of exit, patient conscious and in shock. 8. Give treatment of lacerated and contused wound of scalp. 9. Give diagnosis and treatment of diffuse suppurative peritonitis. 10. What are the indications for, method of and location for paracentesis of thorax?

HYGIENE AND SANITATION

1. Describe an effective method of fumigation of residence following scarlet fever. 2. Give rules for and length of quarantine for (a) diphtheria; (b) scarlet fever. 3. Give method of transmission and management of case of typhoid fever for the protection of attendants and members of the family. 4. Give practical method of caring for the garbage of cities with from five to ten thousand population. 5. Give in detail a method for the examination of water and milk supplies for the purpose of tracing the origin of typhoid epidemic.

ECLECTIC MATERIA MEDICA, THERAPEUTICS AND PRACTICE

1. Define the terms tonic and stimulant and give examples of each. 2. Name three of the best alteratives and give dose of each. 3. Name three of the best diuretics and give dose of each. 4. Give the specific indications for (a) lobelia; (b) pulsatilla; (c) hydrastis. 5. Name three of the best intestinal antiseptics and give dose and method of administration of each. 6. Give the specific indications for gelsemium, potassium iodid, muriatic acid; also dose of each. 7. Diagnose and treat a case of diphtheria. 8. Give differential diagnosis between alcoholism and hemiplegia. 9. Give diagnosis and treatment of spinal meningitis. 10. What do you know about "blood poisoning," its cause and treatment?

MEDICAL JURISPRUDENCE

1. How would you judge as to whether fracture of the bones of a dead body had been produced before or after death? 2. Define (a) illusion; (b) delusion; (c) hallucination; (d) dementia. 3. Having found the body of an infant, give evidence of its having been mature, of its having been born alive and as to cause of death. 4. In a partnership business of two physicians, to what extent, if any, is the one liable for the negligence of the other, in case of a malpractice suit? 5. What constitutes malpractice in a medicolegal sense?

PHYSIOLOGY

1. How is the normal temperature of the body maintained? 2. What is the omentum and what are its chief functions? 3. Give examples of proteins, and state how and where digested. 4. What is the largest gland in the body and where is it located? 5. What is the average per cent. of urea in normal urine? 6. What factors assist the heart in keeping the blood circulating? 7. What is lymph? Chyme? Chyle? 8. Locate and describe the parotid gland. 9. Name the different varieties of cartilage and state where each is found. 10. What are the functions of the spinal cord?

THERAPEUTICS AND PRACTICE (HOMEOPATHIC)

1. What is the chief sphere of action of gelsemium? Give characteristic indications for its use. 2. Compare spigelia and cactus in heart affections. 3. Give symptoms and treatment of gastric ulcer. 4. Give indications for arsenicum in skin diseases. 5. Diagnose and treat herpes zoster. 6. Give causes, symptoms and treatment of cholera infantum. 7. Name two remedies with indications for their use in dysentery. 8. Diagnose and treat membranous croup. 9. Name with indications two remedies for chorea. 10. Compare arsenic, hepar sulphuris and tartar emetic in pus affections.

SKIN AND GENITOURINARY DISEASES

1. Give diagnosis and treatment of herpes zoster. 2. Etiology, diagnosis and treatment of urticaria. 3. Diagnosis and treatment of chronic infantile eczema. 4. Etiology, diagnosis and treatment of erysipelas. 5. Symptoms, diagnosis and treatment of urethral stricture.

ANATOMY, HISTOLOGY AND EMBRYOLOGY

1. Give histologic description of the section of the shaft of a long bone. 2. Describe the shoulder joint. 3. Give a brief description of the cerebrum, naming its lobes and fissures. 4. Give histologic description of a section of the stomach wall, at the greater curvature. 5. Describe the thyroid gland. 6. Describe the male urinary bladder and give its relations. 7. Name the muscles of mastication. Give origin and insertion of two. 8. Describe histologically: (a) striated muscle; (b) non-striated muscle. 9. Describe the wrist joint, giving arrangement of bones. 10. What displacement occurs in a fracture of the lower one-third of the femur? Why?

REGULAR PRACTICE AND THERAPEUTICS

1. (a) Give causes, symptoms and diagnosis of intestinal obstruction; (b) give differential diagnosis between intestinal obstruction and generalized peritonitis. 2. (a) Define intestinal catarrh and give etiology; (b) give clinical history of the acute and chronic forms. 3. Give differential diagnosis between primary lobar pneumonia and acute pneumonic phthisis. 4. (a) Define uremia and give symptoms and treatment. (b) How do the symptoms differ in uremic unconsciousness and cerebral hemorrhage? 5. (a) Give symptoms of acute poisoning by iodid. (b) When is iodid contraindicated? 6. (a) What is therapeutics? (b) Give rule of dosage for children. (c) Name five modes of administering drugs. 7. Give causes, symptoms, diagnosis and treatment of infantile convulsions. 8. (a) Give causes and symptoms of ascites. (b) Give points of differentiation between ascites and chronic peritonitis. (c) What is ascites most apt to be mistaken for? 9. Define the following: myalgia, pertussis, hemicrania, petit mal, acute chorea, tetany, neurasthenia, arsenicism, aphasia and anterior poliomyelitis. 10. (a) What is a hematemesis? (b) Name five chief causes. (c) What are the points of contrast between hematemesis and hemoptysis?

BACTERIOLOGY

1. (a) What are bacteria? (b) Describe the different forms. 2. (a) Give Neisser's method of staining. (b) What is suspected when above stain is used? 3. (a) Give formula of the most commonly used stain for "acid proof" bacilli. (b) Give method of staining "acid proof" bacilli. 4. (a) What are blastomycetes? (b) Where found? 5. (a) What is understood by lack of fermentation? (b) Where found? (c) What bacteria are most commonly found in lactic fermentation?

Book Notices

GYNECOLOGICAL DIAGNOSIS. By Walter L. Burrage, M.D., Fellow of the American Gynecological Society. Cloth. Price, $4. Pp. 656, with 207 illustrations. New York: D. Appleton & Co., 1910.

Burrage has endeavored to present in this new text a practical work written entirely from the clinical point of view, only the salient points of anatomy and the more recent views of pathology being summarized in each chapter. Like Winter's famous work, this text is divided into two parts, the first covering general considerations, the latter being special diagnosis. Clinical history and interpretation are considered in the first chapters, which include such general topics as menstruation, puberty, menopause, pain, constipation, etc. The physical examination of the patient is discussed at length in the succeeding four chapters.

In speaking of the barriers to the entrance of infective bacteria to the peritoneum, no mention is made of the influence of the normal vaginal flora. One short chapter is given over to the examination of the abdomen, the methods of which are excellently discussed, but the author limits his subject later to gynecology according to the strictest construction of that term. The relaxed abdominal wall, as a factor in female ills, is but incidentally referred to and the subject of enteroptosis is covered in a half page. Cystoscopy is gone into fully, and Kelly's method is described and freely illustrated. The first portion of the volume closes with a chapter devoted to the significance of the chief symptoms of pelvic disease, dysmenorrhea, intermenstrual pain, menorrhagia and metrorrhagia, amenorrhea, leukorrhea, dyspareunia, sterility, etc.

The author has devoted two-thirds of his work to special diagnosis. He notes the difficulty of classification of endometritis, and wisely makes no attempt to furnish one of his own. His description of pathology is surprisingly meager; here again the clinical point of view is in control. Burrage describes erosion as showing "no inflammatory action accompanied by destruction of the epithelium as in ulceration. The surface squamous epithelium, which normally covers the cervix, is removed—it is eroded—and the underlying columnar epithelium is hypertrophied." The author will have much difficulty in reconciling this view with that taught by the pathologist.

Pelvic inflammation, congenital anomalies, fibromyomata, and malpositions of the uterus are covered ably, while no fresh contributions are offered. The differential diagnosis, as elsewhere in the volume, is presented in parallel columns. Malignant disease of the uterus is considered clinically, but on a pathologic classification. The importance of early diagnosis is emphasized, but here again the histopathology is vague. The author at one time speaks of chorio-epithelioma as being composed of placental tissues (villi) and at another as if it were identical with a placental polyp.

A chapter is devoted to the ovary, and one to the tube. Pfannenstiel's classification of ovarian tumors is accepted and the differential diagnosis is elaborated with special reference to the intraligamentous variety, torsion, and the results of infection. Extra-uterine pregnancy is exceptionally well described and illustrated, and the importance of differential diagnosis is properly emphasized. Diseases of the vagina, vulva, urethra, bladder, uterus and rectum are taken up adequately, each in a separate chapter, the author emphasizing his belief that the bladder and rectum are too often neglected. He includes a chapter devoted to diseases of the breast, based on Bloodgood's classification.

The gynecologic affections of infancy and childhood are wisely given a place, and such topics as vulvovaginitis, masturbation and enuresis are considered. A chapter on the menopause and old age concludes the volume.

Altogether it may be said that this work is a practical one for the general practitioner who is always most interested in the clinical side of his work. Its great fault, as has been noted before, is the lack of laboratory method as applied to diagnosis. Special text-books are lamentably weak on gynecologic pathology, and surely if there is a place for such minutiæ it is in a text devoted exclusively to gynecologic diagnosis.

DISLOCATIONS AND JOINT-FRACTURES. By Frederic J. Cotton, A.M., M.D., First Assistant Surgeon to the Boston City Hospital. Cloth. Price, $6 net. Pp. 654, with 1,201 illustrations. Philadelphia and London. W. B. Saunders & Co., 1910.

One of the most commendable features of Cotton's book is its originality. The volume embodies the results of the author's study and personal experience with a lot of material, and this lends to it a distinctive and unique value. There is a place in surgical literature for a book on joint-injuries, fractures and dislocations, especially since the *x*-ray in the last decade has caused many long-accepted views to be modified and revised. Every experienced surgeon will concede the importance of joint-injuries, knowing that permanent disability sometimes follows treatment by even the most expert. Dr. Cotton has covered this field of joint-injuries most completely; his style is clear and lucid, and the text is embellished by a great number of good original drawings and reproductions of radiograms. There is no question that it is of great advantage for the author to be his own artist, a circumstance which tends towards the elimination of unimportant details, and the accentuation of the essential features of a drawing.

In the chapter on "Generalities" are collected many facts worth knowing regarding fractures, and much sound advice and wise teaching. There are taken up in succession fractures and luxations of the jaw, spine, sternum, ribs, clavicle and scapula. Then follows a chapter on the shoulder, its various luxations, their mechanism and treatment, and the different varieties of fractures about the shoulder-joint. The elbow is given due prominence, with its anatomy, landmarks and luxations. The fractures about the joint are described clearly and in detail, and the value of the text is enhanced here as well as throughout the book by the profuse and fitting illustrations. In the same thorough manner the author treats of the wrist, hand, pelvis, hip, knee, ankle and foot.

Dr. Cotton preserves his equilibrium and keeps on an even keel throughout. There is no tendency towards dogmatism, nor are there any radical views expressed about treatment. His ideas about immobilization, massage, and passive motion are sane and moderate, and would be acceptable to the majority of surgeons. Every case of joint-injury is a study by itself, and the surgeon, in diagnosis and treatment, must apply those general principles underlying all fractures which he has acquired by years of study and experience. Thus he drifts away from the notion of treating all cases of a certain type of fracture with Dr. So-and-So's splint. Treatment is accomplished by the use of the simplest kind of retention apparatus. The author's attitude towards the operative treatment of fractures is that indiscriminate operating is uncalled for. He essays to teach that in some types of cases the fractures do best if operated on early; others do well without operation, if treated properly from the beginning. Proper emphasis is laid on the taking of *x*-rays after, rather than before reduction of a fracture, to control the position of the fragments before it is too late to reset. Faulty position is due rather to improper treatment than to errors in diagnosis.

The book deserves hearty acceptance by the general practitioner as well as by the surgeon. The paper is good, the printing is clear, and the bookmaking leaves nothing to be desired.

GENESIS. A Manual for the Instruction of Children in Matters Sexual, for the Use of Parents, Teachers, Physicians and Ministers. By B. S. Talmey, M.D., Former Pathologist to the Mothers' and Babies' Hospital and Gynecologist to the Yorkville Hospital, New York. Cloth. Price, $1.50. Pp. 194. New York: The Practitioners' Publishing Co. (1910).

The author calls this "a manual for the instruction of children in matters of sex." It is intended to be put into the hands of teachers and parents, not of children. It consists, first, of matter going to prove the necessity for such instruction, and, second, of an outline of instruction intended to lead children's minds by various ways, chiefly through explanation of the phenomena of reproduction in the lower orders of life, gradually to a proper understanding of sexual physiology and hygiene in human beings. The general plan proposed is unexceptionable, but not original.

As a "manual of instruction," the book is not practical. The biologic facts presented are far too complicated and are described in language entirely too technical to be suitable for children. Very few teachers and still fewer parents would be capable of selecting, out of the many offered, the few essential facts and of presenting them in such simple form that children would be able to grasp them. In fact, the technical language might be rather appalling to a "grown-up" with no special training in science or interest in biology. Only a person with exceptional gifts as a teacher could really get much out of it.

A feature which should receive careful attention in a book intended for the instruction of the young in this subject is the proper coordination of the subject. The sexual physiology of plants, for instance, should be taught incidentally to the general subject of botany. The necessity for proper coordination has scarcely received in this book the emphasis it deserves. The possibility of giving an exaggerated perspective by taking facts out of their context is one which should not be overlooked. A book for this purpose ought to be written by someone possessing real knowledge of children and a practical acquaintance with educational methods.

DISEASES OF THE COLON AND THEIR SURGICAL TREATMENT. (Founded on the Jacksonian Essay for 1908.) By P. Lockhart Mummery, F.R.C.S., Jacksonian Prizeman and late Hunterian Professor, Royal College of Surgeons. Cloth. Price, $3.25 net. Pp. 322, with 88 illustrations. New York: William Wood & Co., 1910.

This monograph is founded on the Jacksonian Prize Essay for 1909. The book is well illustrated with figures in the text and inserted colored plates. It is exhaustive and up to date, and the author's expressions of judgment are sensible. For instance, he says, "The fact that human beings can live without a colon is, however, no proof of its uselessness and at present the evidence brought forward to prove that the colon is a useless and effete portion of the alimentary tract is anything but convincing." The first two brief chapters treat of the anatomy and physiology of the colon. Cannon, Elliott and Smith and Hertz are given credit for their recent interesting work on its physiology. The next chapters are on morbid physiology, bacteriology and diagnosis. The author has shown by experiments that if the colon is cleaned thoroughly it will not become distended with gas, which must be interpreted to mean that the gas causing distention is due to fermentation in the feces. Further on he says of postoperative meteorism, "I have never seen it, nor been able to find an instance of it except in cases when there were obvious possibilities of some infection."

Comment cannot be made on all the diseases of the colon discussed by the author. Mucous colitis the author believes to be a true inflammation, and not a neurosis. He bases his belief on numerous cases in which during surgical operation evidence of inflammation was demonstrable. Olive-oil enemas are recommended as the best medicinal treatment. Some cases persist in spite of all treatment, and for these surgical aid has been sought. The author's analysis of the various operations which have been resorted to is most interesting. He recommends appendicostomy, and the subsequent persistent washing of the colon through the appendix. He discusses such surgical procedures as have been resorted to in extreme cases and can approve only of washing the colon through the appendix, which gives relief and sometimes effects a cure.

THE EAR AND ITS DISEASES. By Albert A. Gray, M.D., Laureate of the Leeval Prize in Otology, International Medical Congress, 1909. Cloth. Price, $4.25. Pp. 388, with 123 illustrations. New York: William Wood & Co., 1910.

This is a compact book of 388 pages, bringing otology reasonably well up to the year 1910. The chapters on "Acoustics," "Anatomy and Physiology" are clear and well illustrated; and the chapter on "Methods and Principles of Investigation" is one of the most useful in the book, and clarifies the different aural tests (including those of Barany) so that an ordinary man can understand them. There is a practical chapter on "General Semeiology and Therapeutics," and a short chapter on "Nasal and Pharyngeal Affections," and then follow the chapters on the various diseases of the ear, which are good and comprehensive. The chapters on mastoid surgery are unsatisfactory and poorly illustrated. It really is a pity that a book containing so many good illustrations should be damaged by the presence of a considerable number of those old, crude and behind-the-times illustrations

from Politzer and others. Mastoid surgery has advanced enormously since these old prints were made, and it is too bad to have them still appearing in modern text-books. The stereopticon pictures are a novelty, but their real usefulness might be questioned.

SECOND ANNUAL REPORT OF THE MICHIGAN ASSOCIATION FOR THE PREVENTION AND RELIEF OF TUBERCULOSIS FOR 1909-1910. Containing Statement of Work Accomplished—Report of Convention at Ann Arbor—Report of Local Associations—State Needs—Report of Secretary and Treasurer. A Brief of the Year's Work. Submitted by the Secretary, Aldred Scott Warthin, M.D., Ann Arbor, Mich., Feb. 26,1910. Paper. Pp. 216, with illustrations.

This is a record of the splendid work done in Michigan against tuberculosis in 1909-1910. It is a strong appeal for substantial encouragement in the work, made by setting out graphically and forcibly the tremendous expense of this preventable disease and the resulting loss to the state in dollars as well as in lives. This pamphlet contains several valuable papers on the management and methods of eradication of the disease, with illustrations of tents and tent colonies for the outdoor treatment, as well as reports from the local associations in the state, and a synopsis of what has been accomplished in the way of state and local sanitary legislation. There are many suggestions that should be of value to other state associations pursuing this work.

BIOLOGY, GENERAL AND MEDICAL. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology, Medico-Chirurgical College of Philadelphia. Price, $1.75 net. Pp. 440, with 160 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The latter-day methods of attacking the problems of function and disease peculiarly emphasize the close relationship and importance of biology to medicine. Not only is this true as to cytology, morphology and the chemistry of the cells, but also as to the chemistry and functions of the body as a whole, the problems of infection, immunity, mutilation, regeneration, heredity and senescence, and the grosser phenomena of parasitology and parasitism, all of which are most essential to a modern understanding of the science of medicine and the most enlightened methods of curing disease. In this brief work the author has treated the subject in a way to be of the greatest value to students of medicine.

A TEXT-BOOK OF BOTANY AND PHARMACOGNOSY. Intended for the Use of Students of Pharmacy, as a Reference Book for Pharmacists and as a Handbook for Food and Drug Analysts. By Henry Kraemer, Ph.D., Professor of Botany and Pharmacognosy, and Director of the Microscopical Laboratory, in the Philadelphia College of Pharmacy. Fourth Edition. Cloth. Price, $5 net. Pp. 888, with 2,000 illustrations. Philadelphia: J. B. Lippincott Co. (1910).

The botanical portion of this work has been rewritten, especially that bearing on the morphology and classification of the angiosperms. The addition of about forty pages treating of the microscopic analysis of the crystalline forms of some of the important plant constituents will be of value in the detection and study of these substances. The work has, moreover, been brought up to date by including the results of the researches published during the past two years.

THE EXTRA PHARMACOPEIA. Revised by W. Harrison Martindale, Ph.D., F.C.S., and W. Wynn Westcott, M.B., Lond., D.P.H. Fourteenth edition. Morocco. Price, 12 shillings net. Pp. 1054, with supplement, Organic Analysis Chart, by W. Harrison Martindale, Ph.D., Pharmaceutical Chemist. Morocco. Price, 3 shillings 6 pence net. Pp. 80. London: H. K. Lewis, 136 Gower Street, W. C., 1910.

This volume furnishes in a convenient form a large amount of detailed information on pharmaceutical and medical subjects, especially in relation to articles not contained in the pharmacopeia. The new edition contains some important changes. New chapters are introduced on lactic acid bacilli, organic arsenic compounds, iontophoresis, radium, etc. Vaccine therapy, the Wassermann test, trypanosomiasis, examination of stomach contents and the flavoring of medicines are among the subjects discussed.

THE PRACTITIONER'S VISITING-LIST FOR 1911. Leather. Price, $1.25. Pp. 192. Thirty Patients per Week. Philadelphia: Lea & Febiger, 1910.

"The Practitioner's Visiting-List" combines, in a neat pocket book, well bound in leather, a convenient record for the physician's visits and professional engagements, and much information that he is likely to need on his daily rounds, such as tables of doses, poison antidotes, etc.

Medicolegal

Construction of Medical Practice Acts with Reference to Certificates and Verification Licenses—Requirements for and Construction of Restricted Certificate.—Presumptions as to Acts of Boards.—Right to License

The Supreme Court of Texas says, in State Board of Medical Examiners vs. Taylor and wife (129 S. W. R. 600), that the latter parties sought by mandamus to compel the board to issue to Mrs. Taylor the verification license to practice medicine provided for by section 6 of the act of 1907. A district board of medical examiners had issued to her, in 1889, a certificate stating that they had examined her and "find her qualified to practice the branches of obstetrics and diseases peculiar to women and children, as required by the laws of the state of Texas." Under this she practiced medicine from its date, but the State Board refused any evidence of authority to practice, except a license to practice obstetrics only.

The provision of the act of 1907 above referred to requires the issuance by the present board of the "verification license" on production of documents sufficient to establish "the existence and validity" of the "valid and existing license heretofore issued by previous examining boards." What the verification license is to be the law does not expressly say; but its name and the purpose for which it is required plainly indicate that it is to be merely the evidence of the continuance of authority to practice as before, neither adding to nor taking from that authority. Pre-existing lawful authority is thus recognized and continued in force by compliance with the law. Therefore, if it was true that the first certificate was a valid license to practice medicine at all, either generally or in the branches mentioned in it, it must follow that the plaintiffs were entitled to a verification license to continue in force such authority as it had conferred.

The law formerly regulating the licensing of physicians, and which was in force when the certificate in question was issued, provided that it should be the duty of the board to examine thoroughly all applicants for certificates of qualification to practice medicine, in any of its branches or departments, on anatomy, physiology, pathological anatomy and pathology, surgery, obstetrics and chemistry, and when satisfied as to the qualifications of an applicant should grant to him a certificate to that effect, which should entitle him to practice medicine.

For the State Board it was contended that the certificate granted to Mrs. Taylor showed by its statements that the requirement that she should be found qualified in all those subjects was not complied with, and that it was issued on a finding by the former board that she was qualified only in obstetrics and in diseases peculiar to women and children, and that she was not qualified in the other subjects named in the statute. If it were true that the certificate showed all this, it would probably follow that the board so transcended its authority in extending a license of any character as to make its action void, since it was true that the statute did not admit any one to practice without the examination in all the prescribed subjects, resulting in the satisfaction of the board of the applicant's proficiency therein. But the court cannot say that the certificate meant that, consistently with the presumption that the board did its duty, which presumption must be indulged unless its action showed the contrary. The most that could be conceded was that a certificate so worded might be used to cover up a state of facts such as that which it was thus asserted to show affirmatively. It could not even be admitted that those facts would be fairly consistent with the truthfulness of the certificate, assuming the members of the board knew their duty. They said they had examined the applicant as required by law, which meant that they had examined her in all the named subjects and that they had found her qualified to practice the branches named. They could not truly have said that she was so qualified, in the sense of the law they were sworn to follow, unless they were satisfied that she possessed the knowledge required by that law of all the prescribed subjects.

All that rendered the certificate ambiguous or questionable was the mention of particular branches, and that might be explained by the fact that the statute plainly contemplated that there might be applicants who intended to confine their practice to particular branches or departments, which made it natural, and not improper, in such cases, to mention the branches or departments in the certificate, without restricting its meaning as to the scope of the examination and of the qualifications of the applicant. The statute proceeded on the conviction that qualification to practice in any branch or department could only be attained through adequate knowledge of the subjects named, and the court thinks it should be presumed that a board of medical gentlemen, selected because of their own proficiency, would proceed on a like conception, and would not issue a certificate affirming fitness to practice a branch without being satisfied themselves of the adequacy of the information of the person licensed concerning those things declared to be essential to that fitness.

The language, "When the board shall be satisfied as to the qualifications of an applicant, they shall grant him a certificate to that effect," meant no more than that the certificate should state that they were satisfied as to his qualifications to practice medicine, and a certificate in that language would have entitled an applicant to practice in all the branches or departments, or in particular branches or departments, as he might choose. The certificate in question, if the board understood their duty and spoke the truth, implied as full an examination and as complete qualifications as if it had been the more general one just instanced, since, under the statute, no one could be qualified, as was certified, to practice in the diseases peculiar to women and children without the required knowledge of the subjects mentioned. The provisions referred to did not apply to females practicing midwifery.

The question of whether the certificate entitled Mrs. Taylor to practice medicine generally, or restricted her to the branches mentioned, was not involved in this case. The State Board were not required to enlarge or diminish her authority, but only to issue to her a verification license to have the effect already explained. The judgment of the district court required them to issue only such a verification license as required by the act of 1907, "according to the provisions and wording" of the former certificate, and to that the Supreme Court thinks that the plaintiffs were entitled.

Liability for Negligent Communication of Small-Pox

The Springfield (Mo.) Court of Appeals had, in Franklin vs. Butcher (129 S. W. R. 428), a suit brought by a mother to recover damages for the alleged negligent communication of small-pox to her minor son. The defendant asked that the jury be instructed that the plaintiff could not recover unless she had proven that the defendant communicated the disease of small-pox to her son after he, the defendant, himself became aware of and knew that he was afflicted with said disease, and that he so communicated said disease by recklessly, carelessly and negligently bringing himself into contact with the plaintiff's son. Also, that the plaintiff could not recover unless the defendant wilfully or intentionally communicated the disease of small-pox to the plaintiff's son after the defendant had knowledge that he was afflicted with that disease. But the court thinks that these instructions were properly refused. If the defendant negligently and carelessly communicated the disease of small-pox to the plaintiff's son, it was immaterial whether it was done wilfully or intentionally, and it was also immaterial as to how it was done, if it was negligently done.

In the companion case of Hendricks vs. Butcher, decided on the same day (129 S. W. R. 431), the same court further says that it is familiar law that before an action will lie for negligence some duty must be neglected on the part of the party charged. But the court has no hesitancy in holding that any one afflicted with the disease of small-pox, which is known by every one to be a highly contagious disease, owes to every one the duty so to conduct himself as not to communicate this disease to them, after he becomes aware that he is afflicted with it. Hence, if the defendant knew that he was afflicted with small-pox, it then became and was his duty to keep away from other persons, or should other persons approach him, to notify them of the fact so that they might protect themselves.

Villages May Tax Occupation of Physicians

The Supreme Court of Nebraska, in reviewing the case of the Village of Dodge vs. Guidinger (127 N. W. R. 122), affirms the right of villages in that state to lay out and collect a tax on the vocation of a physician. The state statute gives authority "to raise revenue by levying and collecting a license tax on any occupation or business within the limits of the city or village, and regulate the same by ordinance." The defendant contended that practicing medicine is neither a business nor an occupation, but a profession; that, since the statute and the ordinance in question were silent concerning professions, the tax sought to be collected was void. But, in the court's opinion, a physician practicing medicine is engaged in an occupation within the meaning of the statute, and the plaintiff village under the legislative grant of authority had power to levy and collect a tax on the defendant's occupation or business.

Again, the defendant argued that the village might license only such vocations as it might regulate in the exercise of the police power, and that the practice of medicine was not subject to such regulations. But the statute authorizes the imposition of occupation taxes for the purpose of raising revenue. The taxing power, therefore, was the source of the village's authority to demand from the defendant the tax in question. The power of the legislature to raise revenue by levying a license tax on occupations is no longer an open one in Nebraska.

Removal of Garbage Controllable in Interest of Public Health

The Court of Appeals of Maryland says, in Schultz vs. State (76 Atl. R. 592), that it cannot be seriously contended that an ordinance which deals with garbage, house offal or other refuse, animal or vegetable matter, is not one which has a direct relation to the police power, or that it is not the duty of the city in the interest of the public health or comfort to assume the regulation and control of such matters. The fact that this accumulation contains fresh scraps of animal and vegetable matter does not prevent the extension of the police power of the city over the whole subject. More particularly, it holds that it was a valid exercise by the mayor and city council of the city of Baltimore of the police power vested in the city by its charter to pass an ordinance providing that no person, except employes of the city engaged in public work, or persons under contract with the city engaged in public work, should convey any garbage, house offal or other refuse, animal or vegetable matter through any street, etc., of the city, without having first obtained a permit so to do from the commissioner of health, and then only in the manner prescribed in said permit.

Society Proceedings

COMING MEETINGS

Southern Surg. and Gyn. Assn., Nashville, Dec. 13-15.
Western Surg. and Gyn. Assn., Chicago, Dec. 19-20.

SOUTHERN MEDICAL ASSOCIATION

Fourth Annual Meeting, held at Nashville, Nov. 8-10, 1910

The President, Dr. W. W. Crawford, Hattiesburg, Miss., in the Chair.

President's Address: Advances in Medical Education

Dr. W. W. Crawford, Hattiesburg, Miss.: It is not enough to say that there are a few good medical colleges, our full duty shall not have been discharged until we have witnessed the disappearance of the last inferior one. The proper adjustment of this question must contemplate a four-fold educative need: 1. The profession must be made to appreciate that

an over-production of medical colleges means an over-production of poorly equipped physicians. 2. The layman must be brought to realize that there is a difference in medical degrees, so that he may demand higher standards. 3. State legislatures must be awakened to their responsibility. 4. The medical student himself must be convinced that the best is not too good for him.

Safeguarding Society From the Unfit

DR. A. B. COOKE, Nashville: Vasectomy is not specified as the method of sterilization in the Indiana law, but its advantages over other methods are obvious. Orchidectomy is a mutilating operation, and one of considerable gravity, yet I am persuaded that it should be recognized and specified as the only method permissible in rapists. Human nature will never rise superior to the idea that this type of criminal merits punishment, and punishment of a character which will render a repetition of the crime forever impossible. As a preventive, particularly in the south, where this evil is most prevalent and most abhorent, the legal infliction of one such penalty would have a more salutary effect than many lynchings or even burnings at the stake. While the foregoing remarks have been directed to habitual criminals, they are just as applicable to the larger class comprehended under the general term "defectives" or "degenerates." That the importance of this great question is coming to be generally recognized is evidenced in the fact that such widely separated states as Kansas, Delaware, Indiana, Connecticut, Michigan, and New Jersey have enacted laws regulating marriage, while Utah, Oregon, California, Connecticut and possibly others have followed Indiana's lead in legalizing the sterilization of criminals and degenerates. It is yet too early to point to definite results from the operation of these laws. But when the crucial test of time shall have been applied, I believe it is reasonable to predict that crime and degeneracy will be largely decreased and the world be correspondingly better and happier.

DISCUSSION

DR. GEORGE H. PRICE, Nashville: This subject contains two principal ideas, namely, the restriction of marriage, or the throwing around marriage such safeguards and barriers as will prohibit and prevent, if possible, the reproduction of such individuals as are a constant menace to society. It is a difficult matter to secure legislation because there has been a lack of uniformity on the part of the medical profession looking to this great problem of safeguarding the public; nevertheless the medical profession should be foremost in advocating restrictive measures.

DR. FRANCIS DOWLING, New Orleans: Physicians of the medical department of Tulane University have taken up this matter and have received letters from those who are interested in securing such legislation as will safeguard the public. Some have suggested that gonorrhea and syphilis should be among the reportable diseases to boards of health like cases of diphtheria or scarlet fever. The people of the State of Louisiana are already agitating this question.

DR. JOHN H. WHITE, New Orleans: There is one difficulty growing out of the particular remedy advocated by Dr. Sharp of Indiana for the class of defectives under discussion, and that is, the operation of vasectomy would be utilized by the roué as fitting him to practice his nefarious life without risk of being caught, and I believe that is a thing which should be carefully considered before resorting generally to this operation. A law providing for this operation should guard against men voluntarily submitting to this operation for that very reason.

DR. JERE L. CROOK, Jackson, Tenn.: The time has arrived when the medical profession should take active steps toward bringing about consummation of the ideas embodied in Dr. Cooke's paper.

DR. ISADORE DYER, New Orleans: In the last few years this question has been discussed as one of supreme moment in connection with eugenics. I believe that professors of eugenics, criminologists and scientists, who are interested in the solution of this problem, are all satisfied that the aphorism of Oliver Wendell Holmes, that a man's education should begin with the education of his great-grandfather, is very pertinent and that we ourselves for the sake of our own people should establish at least this one law of protecting our descendants from the possibilities to which they have been exposed in regard to criminals and defectives.

DR. GEORGE H. PRICE, Nashville, offered the following resolutions, which were adopted:

WHEREAS, The medical profession of the South believes that its highest office is to prevent disease and its most sacred obligation to safeguard those interests of society on which health and happiness depend; and

WHEREAS, We are convinced that those interests are seriously menaced by the utter disregard of the procreative function which characterizes the present system of managing criminals and degenerates; therefore, be it

Resolved, By the Southern Medical Association, in regular annual session assembled, that the members endorse as wise and beneficent the laws of Indiana regulating marriage and providing for the sterilization of habitual criminals and other degenerates.

Resolved, That these laws be commended to the earnest consideration of state medical societies, with the suggestion that persevering effort be made to incorporate their principles into the laws of each state.

Exophthalmic Goiter

DR. W. D. HAGGARD, Nashville: The four cardinal symptoms of this disease, tachycardia, goiter, tremor, and exophthalmos, are unmistakable. An acute toxic case presents high temperature, extreme restlessness, tumultuous heart action, sometimes up to 200, and nausea and vomiting which may become frequent and distressing. There may be epigastric and abdominal pain. It looks and is like a violent septic intoxication. Active delirium, followed by stupor, precedes death. In the four acutely fatal toxic cases that I have observed, the patients all had temperatures up to 106 F., shortly before the end. In the chronic cases with exophthalmos the eye symptoms are important. Surgical treatment has proved superior to any other. It can be shown statistically to offer the best results, and at present early operation is the best treatment. It is comforting to realize that the disease can be very generally cured if taken in time. The very acute or advanced cases are very grave surgical cases. The present surgical efforts are directed to decreasing the blood supply by ligation of the arteries and thus reducing the amount of secretion; or to lessening the amount of secreting surface by partial thyroidectomy. Mayo estimates that one-fourth of the patients come for relief in a condition precluding anything but ligation; whereas two-thirds can have the larger lobe and isthmus removed without the ligation of the opposite superior thyroid artery. Ligation is especially recommended by Mayo in cases hardly severe enough to require thyroidectomy. The cases in which I have performed ligation, while few in number, have been satisfactory in the relief of the symptoms. In two cases, it was employed simply as a preliminary step in the graduated operation, but one of the patients was so much improved at the end of four months that the removal of one lobe of the gland is apparently not required at this time. If, at least, in one case ligation had been substituted for thyroidectomy, a death from postoperative hyperthyroidism might have been averted.

DISCUSSION

DR. B. L. WYMAN, Birmingham, Ala.: The medical treatment of hyperthyroidism has been practically a failure in the majority of cases, and in recent years I have referred my cases to the surgeon. I would emphasize the importance of early diagnosis. Some time ago I referred a patient to Dr. Mayo. I advised operation years ago, but the woman deferred it until I felt that a thyroidectomy was impossible, and even the operation of ligation of the superior thyroid, which was finally performed by Dr. Mayo, did not result favorably. The woman had a dilated heart when she went to Rochester, and hence the operation was not followed by a favorable result. If we hope to accomplish anything in the treatment of hyperthyroidism, early diagnosis and prompt operation are absolutely essential.

Bones and Joints

DR. J. B. MURPHY, Chicago: When there is a lesion in the neighborhood of a joint which causes inflammation or thickening, or adhesion of the capsule, if the surgeon wants to overcome deformity the capsule must be dealt with as one would deal with bone or with any other inelastic material. The outer fibrous capsule has a feeble vascularity. It practically never becomes inflamed; it is never the seat of a primary lesion. It never becomes tuberculous. It has an inner lining which is known as the synovial lining. The surface is represented by endothelial cells which are arranged close to each other, and they seal up the surfaces of both the synovial membranes just as accurately as the epithelial cells seal up the surface of the skin. If surgeons are going to do work on joints, one of the things they must observe is that the joint has an enormous resistance against infection, and they must become the greatest respecters of this endothelial layer in all work that involves the surgery of the joints. The time to attack a joint is when Nature or the surgeon has artificially prepared the joint in rendering it immune against easy infection.

Ankylosis can be avoided in practically every case of acute infection of joints. The moment the practitioner speaks of draining joints that are infected, he is assuming responsibility for an ankylosis. In an infection in a joint, to save it from destruction, it is necessary to relieve the joint of tension and the products of infection. This can be done by aspiration. But one can give the patient more relief than a hypodermic injection by putting on Buck's extension and separating the pressing surfaces that are inflamed.

Education of the Specialist

DR. E. C. ELLETT, Memphis, Tenn.: The solution of this and other similar problems will only be fairly settled when the whole thing is put under the control of the national government. With the establishment of a national department of health it may be feasible to map out a course of study and hospital work which a man must complete satisfactorily before he can appear before the world as a specialist in any department of medicine.

Treatment of Trachoma

DR. H. H. MARTIN, Savannah, Ga.: In order to effect complete cure in chronic trachoma, surgical and medical treatment must be combined as neither is sufficient in itself. Of the surgical methods the one which I have called the Coover method is the most satisfactory from all points of view. For local application a solution of copper sulphate in strength of from 5 to 10 per cent. has no rival, but its use must be begun soon after the operation, and continued for eight weeks. Any attempt to sterilize the sandpaper is troublesome, unsatisfactory and unnecessary if the conjunctiva be scrubbed with bichlorid of mercury after the completion of the operation.

Malarial Manifestations in the Eye

DR. M. H. BELL, Vicksburg, Miss.: My observations are based on the symptoms found in thirteen cases of eye trouble due to malarial infection. Corneal ulceration was present in eleven cases, and two entirely distinct types of ulceration were noted. In seven cases the common dendritic ulceration was present, and in the other four the ulcers were of the simple round variety, which I have designated acute herpetic. The acute type of dendritic ulcer I have found only in an acute malarial infection, and it has always responded readily to appropriate antimalarial treatment in combination with the application of tincture of iodin to the ulcerated area, and the usual local treatment employed for any corneal inflammation. I have found this form of ulceration recurring at times, especially in cases in which the treatment of the malarial infection has been stopped in too short a time, and for the prevention of recurrence, I have always placed most reliance on small doses of arsenic continued for some weeks.

The Artificial Leech in Acute Mastoiditis

DR. U. S. BIRD, Tampa, Fla.: My experience includes nine cases. Clinically they were all instances of typical acute mastoid infection, middle-ear disease, high temperature, mastoid swelling, and pain. In every case the middle ear has been freely opened without relief. In all of the cases operation seemed indicated, and in one case the patient was sent to a hospital for that purpose. In some heat was used, but in most it was unnecessary after the leech. Calomel was given at first as a routine measure. Improvement was noted at varying intervals after leeching. At times it was immediate; it usually occurred the same day. In one case the leech was applied in the morning with temporary relief. In the evening the patient was suffering so much that he was sent to a hospital with instructions that he be prepared for operation next morning. Next morning he was feeling better; operation was postponed, and he recovered without further incident. In every case relief was permanent, no further active treatment being necessary.

Episcleritis

DR. O. DULANEY, Dyersburg, Tenn.: There is no specific for this disease. Most good is obtained from constitutional treatment. One is always safe in administering mercury; the salicylates and alkalines, also the iodids play their part, especially in cases of specific origin. The best results are obtained locally by the use of mild sedative lotions, and by keeping the pupils well dilated with atropin sulphate. Hot applications should be frequently used, much depending on the severity of the disease. The ointment of yellow oxid of mercury is very efficacious, and an ointment of boric acid will often give good results.

The Heath Mastoid Operation

DR. M. M. CULLOM, Nashville, Tenn.: This operation is safer than the radical operation, as there is less danger of intracranial involvement following it. There is practically no danger of injuring the facial nerve. There is no injury to the hearing and the operation is often followed by marked improvement in hearing power. Suppuration diminishes rapidly and postoperative healing takes place sooner than after the radical operation. It can be easily converted into the radical operation, if desired.

(To be continued)

MASSACHUSETTS ASSOCIATED BOARDS OF HEALTH

Quarterly Meeting, held at Boston, Oct. 27, 1920

The President, DR. HENRY P. WALCOTT, Cambridge, in the Chair

Typhoid Fever

DR. CHARLES V. CHAPIN, Providence, R. I. [For the Committee on Typhoid Fever]: We believe that there is a lack of control of typhoid at present, and we urge local boards of health to be more energetic. Cases should be reported, and should not only be filed, but the boards of health should show to the physician some evidence that his report has been considered as valuable, and among other methods the milk supply in each case should be investigated. Earlier diagnoses should be made and in order to be of assistance the boards of health should offer the physician proper aid in diagnosis, such as facilities for blood-tests, etc. Directions should be given by physicians to nurses how not to spread it. Disinfection and isolation are recommended, and the placarding of house, front and back. Special attention should be given to any member of the family who handles foodstuffs, and the spread by this means avoided. If isolated, some means of determining the termination of isolation should be announced, as, for instance, when the patient has had a normal temperature for two weeks, as results tend toward the opinion that in the large majority of cases no bacilli are excreted after a two-weeks' absence of fever. Except with carriers the above period appears correct, and their cases have no rule. Hexamethylenamin should be given as a routine treatment. When a simple bacteriuria only is present, the results of hexamethylenamin

are marked; 0.3 gm., given three times a day, has been known to clear the urine in twenty-four hours. Occasionally painful micturition occurs following its ingestion and in that event it is wise to discontinue its use. It is valuable in carriers, but does not always effect a cure. Other preventatives to the spread of the disease are to screen privy vaults from flies and build them rat-proof. It is recognized that all over the world the diminution of typhoid follows the lessening of the number of privy vaults.

Our list of recommendations is: 1. Local boards should require reporting of cases. 2. State boards, and their local boards, should offer to physicians facilities for examination of blood and feces. 3. Each patient should be visited in twenty-four hours by an agent of the board in relation to the matter of isolation and disinfection. The disinfectants should be furnished free by the boards. 4. Local boards should investigate milk and water-supply of each reported case. 5. Houses should be placarded. 6. Patients should be isolated. 7. Hexamethylenamin, 0.3 gm. three times daily, should be given for two weeks after a normal temperature has continued. 8. The two weeks following a continued normal temperature is sufficient, except in those handling foodstuffs, when the rule should be four weeks. 9. Typhoid carriers should not be allowed to perform work requiring the handling of food material. 10. Typhoid carriers should be under the observation of boards of health and required to report monthly. 11. A case on a farm should require that the authorities in all places receiving a supply of food from the farm should be notified. 12. Protect all privy vaults. 13. Exterminate the typhoid fly.

DISCUSSION

DR. GEORGE W. FITZ, Boston: It is a simple matter to compile recommendations; the real problem is to enforce them. It is questionable whether they should be left to the discretion of local boards; it seems rather that they should be mandatory. If this matter is left simply to the publication of this report, little will be accomplished. We should have legislation to cover the matter.

PROF. WILLIAM T. SEDGWICK, Boston: I believe that this committee should confer with the Massachusetts State Board of Health. Recognition of typhoid as a dangerous disease is the kernel of the whole matter. When this is done we can treat it as a contagious disease and a menace to the public health. There should be no politics in the appointment of health officers, and they should be recommended by well-recognized health bodies.

Cholera

DR. M. J. ROSENAU, Boston: Cholera has a way of its own which we do not understand. It smolders for years and then breaks out. It is pandemic at present. We know its causal agent and its method of spread, but do not know why the epidemics begin. It acts like a spark spreading to others and a conflagration occurs. It is very interesting to compare the present cholera situation with the last epidemic—that of 1892. When cholera spread from the Orient to Europe in 1892 and threatened to come to this country, President McKinley was prevailed on to order a quarantine of twenty days on all vessels, and extravagant precautions far beyond the needs of the case were put into operation. I think that those who know most about conditions were sorry that these extreme measures were taken. It is a good sign of the real progress made in controlling the disease that plans are being made and carried out now without fuss, and when it is stated that there is very little danger, people have faith in that assertion. In 1892, sanitarians called attention to the fact that if cholera should get into the United States there would be great danger of a water-borne contagion in such cities as Philadelphia, Chicago, Lawrence and Lowell. These cities have so improved their water supplies now that a great epidemic is practically impossible, and we are safe from any such danger of infection as was suggested in 1892. Cholera was once considered a water-borne disease, as was typhoid. It is perfectly true in certain definite instances that water has been a vehicle for its spread, but in most instances—as in typhoid—it is by contact. We are well guarded against cholera. Even if it should get in, with all the improved methods of sanitation we should not have any trouble at all with it.

DISCUSSION

DR. C. V. CHAPIN, Providence, R. I.: What is the duty of a health officer when he receives a list of suspects from the government officials?

DR. M. ROSENAU: He should have a trained agent see the people twice a week for from two weeks to a month. The ideal plan would be to require the suspect to report daily, and should he fail to report, to hunt him up.

Poliomyelitis

DR. ROBERT W. LOVETT, Boston: The epidemic character of this disease has attracted the special attention of medical men. It is increasing in frequency in all parts of the world. In the five years ending 1904, 300 cases occurred. In the five years ending 1909, 8,000 cases were reported, of which five-sevenths were in the United States. This increase is too great to be affected by the claim that the increase is due to the fact of reporting being more often compulsory at present. Analysis of the facts at our disposal results as follows: Immigration has not kept pace with the increase of cases and so apparently is not a factor. Scandinavian immigration has not even kept pace with the increase of cases, and so its prevalence in Norway and Sweden has not been an influential cause. Passenger traffic has increased but not at all commensurate with the cases of infantile paralysis, neither by steam nor electric roads. Automobile traffic has much increased and may be found to be a factor. Seasonable elements on being considered are not of much aid, as fruit appears to be without influence, and dust with presence or absence of rain has equal value for and against its spread. In New England it has spread with absence of the usual precipitation and in the northwest it has spread in the face of unusual rain. The influence of insects is of difficult estimation and demands further study. The epidemics appear to come in two-year periods and this fact may or may not be of value in the study. River valleys seem to be more prone to invasions than coast towns, but with marked exceptions, as at Boston and New Bedford, Mass., often an epidemic is followed by immunity of a section, but this is open to exceptions.

The State Board of Health is about to investigate as to the greater or less prevalence of animal diseases concurrent with the spread of poliomyelitis, particularly in sections showing the disease in epidemic form. It is not certain whether the danger of communication is over after the acute stage is finished. It seems wise to require isolation and absence from school.

DISCUSSION

DR. JOHN L. MORSE, Boston: Early diagnosis is impossible at present. No special symptom of throat, stomach, bowels, or any organ is valuable. I have not found sweating or prostration, and these two symptoms are more often absent. Diagnosis is not possible until paralysis appears, except in epidemics or in patients previously exposed. In atypical cases also, no diagnosis is possible, as the patient may have the disease and recover without diagnosis. In a colony of children at the seashore eight had similar symptoms and ten days later one child had partial paralysis; I have no doubt that all the cases were cases of this disease. Lumbar puncture is of no practical importance in the diagnosis. Hexamethylenamin is of no value after paralysis occurs, although it may be of use in the incubation period. After paralysis has set in it may still kill a few germs. The child should be isolated, but the length of time is uncertain. I should prefer boards of health to designate a given time of isolation, even if not correct. Most physicians do not wear gowns while visiting these cases.

DR. EDWARD H. STEVENS, Cambridge: We should seek to allay public unrest and so publish the facts that the people may not fear an epidemic of such proportions and results as to cause a panic.

MINNESOTA STATE MEDICAL ASSOCIATION

Annual Meeting, held at Minneapolis, Oct. 6-7, 1910

(Concluded from page 1835)

Re-Operated Colles' Fracture; Thrombosis of Mesenteric Vein

DR. ARTHUR T. MANN, Minneapolis: The fresh Colles' fracture had been treated months before in the usual way. The result was a wrist with marked deformity and loss of motion. Four months later a good surgeon had undertaken to correct the wrist by an oblique incision through the radius of about 45 degrees, pushing the lower fragment downward and forward. When the splints were removed four and a half weeks later the position apparently was satisfactory. The fragment slowly returned to its original position or worse. Five months later I operated, making a curved incision through the radius, curving a little farther forward below than above in order to gain a little extension, as the fragment was rotated downward and forward. Retaining splints were kept on eight weeks before union seemed firm. The patient now shows, three months after the operation, that the line of the radius is excellent, with a slight loss in length from the original impaction, and that all wrist motions are much improved and still gaining. In the case of thrombosis thirty-six hours after childbirth, symptoms of obstinate constipation and moderate tympanites had come on. Cathartics and enemas gave some result, but the conditions gradually increased, especially the tympanites; no special pain, though the abdomen was a little tender, more on the right side than the left; only occasional nausea and vomiting. An indistinct mass the size of a small child's head was made out in the upper right side of the abdomen, tympanitic, only moderately tender. The stomach area seemed dilated to the level of the umbilicus. Diagnosis, obstruction of the bowels from some cause not yet clear. I advised operation at once. The entire small bowel was found dilated, the large bowel down to the splenic flexure enormously so, while it was empty and collapsed below this point to the anus. The transverse colon was the apparent stomach area and the cecum and ascending colon was the mass felt. The appendix was found stretched tightly about the root of the mesentery with its tip adherent well up on the left side of the mesentery, thus constricting its vessels.

Typhoid Fever With Perforation

DR. GEORGE DOUGLAS HEAD, Minneapolis: From a study of the 495 reported cases, I conclude, first, that mortality is lowest in persons up to 15 years of age and beyond 25 years; second, that the mortality is lowest (50 per cent.) where perforation took place in the first week and highest in the third and fifth weeks of the disease; third, that the earlier the diagnosis is made and operative relief is applied the lower is the mortality. Of the 133 operations, sixteen were performed within three hours of the onset of symptoms, with 50 per cent. of recoveries. Of the twenty-five patients operated on between three and six hours, 44 per cent. recovered. Of the twenty-two patients operated on between six and twelve hours, 20 per cent. recovered, and of those between twenty-four and forty-eight hours, 11.1 per cent. recovered.

Pyelography

DR. WILLIAM F. BRAASCH, Rochester, called attention to the fact that surgical diseases of the kidneys are now being diagnosed largely by the use of the Roentgen ray and the cystoscope. Although they are of much value independently, of late the tendency has been to use the two methods combined. Thirty radiographs selected from several hundred illustrated a variety of conditions and were shown to be of value in the diagnosis of the following conditions: (1) The normal pelvis. (2) Mechanical pelvic dilatation. (3) Inflammatory pelvic dilatation. (4) Deformity accompanying renal neoplasm. (5) Localization of stone within the kidney. (6) Differentiation of extra-renal shadows. (7) Cystic kidney. (8) Solitary kidney. (9) Congenital anomalies of renal shape and position. (10) Hydroureter. (11) Identifying ureteral obstruction. Attention was called to the fact that although these plates were frequently of great practical value in the diagnosis of the various conditions demonstrated, nevertheless we must add this data to the other data derived from the cystoscope and the Roentgen ray, as well as those obtained from the case history and physical examination. A diagnosis is to be arrived at only by combining the data derived from the various sources.

DISCUSSION

DR. WILLIAM J. MAYO, Rochester: Dr. Braasch has been too modest in his claims for pyelography. I have operated on many of the patients whose kidneys have been pyelographed by Dr. Braasch, and I would like to acknowledge my indebtedness to him for the accurate diagnosis which enabled me to plan my work in advance, which made the operation so much easier and added so greatly to the safety of the patient.

Pyelography tells the size of the pelvis, the exact situation of the kidney with relation to the ribs, etc., and as to whether or not the kidney is infected in cases of hydronephrosis. The operation can then be made from behind, laterally, or anteriorly, as space or other conditions may indicate. In stone in the kidney pyelography tells whether the stones are in the pelvis, in which case they are masked in the pyelograph, but if they are in the cortex, they will show outside the pelvis. In two cases, radiographs showed stones apparently in the right kidney, pyelography demonstrated that the shadows were not in the kidney at all, but outside of this organ, and operation showed them to be gall-stones in an outlying gall-bladder and of just the right density to give shadows, which is not often the case in gall-stones. Pyelography enables one to make a diagnosis of hydroureter and to determine the size and position, as well as the location of the stricture.

In the diagnosis of certain tumors lying in the region of the kidney, the method is of the greatest differential value, showing at once the position of the kidney. In the genito-urinary field, as in so many others, we find that direct inspection by means of cystoscopy, ureteral catheterization and pyelography are clearing up old obscure cases of supposed bladder disease and proving that such diseases are extremely rare, although bladder complaints are extremely common. These complaints find their source in tuberculosis, stone, stricture, tumor and other diseases of the kidney and ureter, in posterior urethritis, prostatic disease, diseases of the seminal vesicles, etc. From a surgical standpoint this method of diagnosis enables the surgeon to work from the plan of the master diagnostician.

Mixed Tumors of the Parotid Glands

DR. E. S. JUDD, Rochester: We have observed forty-one tumors in the parotid, four in the submaxillary, none at all in the sublingual. In twenty-two of our series of forty-one cases the tumors were in the right parotid. The majority of tumors occurred in the second decade. The youngest patient was 15 years of age, the oldest 71. Twenty-five of the series were females. Average duration was 8 years. One case in our series was of one month's duration. In nine of our series of forty-one operated cases, the endothelial element predominated. Five were sarcomatous, three mixed-cell tumors undergoing sarcomatous change, ten were recurring growths. Twenty-seven of these patients have recently been heard from. Twenty-four state that they are "perfectly well." Three have a local recurrence; two of these had predominating sarcomatous elements at time of operation.

Pulmonary and Circulatory Complications Following Surgical Operations

DR. E. H. BECKMAN, Rochester: This report is based on 4,530 consecutive cases operated on in St. Mary's Hospital, during the first eight months of 1910. Mortality rate in this series was almost the same in both classes; six deaths in pulmonary and five in the circulatory. Ether was the anesthetic used. Local anesthesia with cocain in a few cases. In the series of 4,530 there were thirty-seven complications, most of them extremely mild. There were six deaths in the group of thirty-seven cases; and fifteen cases of pleurisy, most of

them mild. One patient died after a splenectomy. In eleven, symptoms occurred in the first week; four in the second week. Twelve cases of bronchitis, all mild types, none fatal. Ten cases of lobar pneumonia, five of which were fatal. Two of the fatal cases were in comparatively young adults with simple operations. Both developed delirium tremens, and died of complicating lobar pneumonia. The other three were debilitated old men with arteriosclerosis. One of them was 69 years of age, operated on for carcinoma of the lip and glands. The second, 80 years old, was operated on for stone in the urinary bladder. The third, 65 years of age, was operated on for gall-stones, and carcinoma in the head of the pancreas. Twenty-seven cases of complication were related to circulatory system. Phlebitis seventeen, embolism six. Of the seventeen cases of phlebitis there were three of the right side, fourteen of the left. Thirteen cases followed abdominal operations, four extra-abdominal. Five were infected cases, two at time of operation; three mild wound infections developed later. All of the cases appeared in the second week. No deaths. Six cases of embolism, two cerebral, were both fatal. Three of the four pulmonary cases were fatal. One occurred on first day, one fifty-six hours after operation, two on the eighth day, two on the ninth. In only one case was there evidence of infection either at operation or at autopsy. Ages of patients, 35, 43, 45, 57, 60.

Sudden Death in Cardiovascular Disease

DR. JOHN GROSVENOR CROSS, Minneapolis: Sudden death in cardiovascular disease occurs from various causes: (a) rupture of the heart wall; (b) rupture of an aneurysm; (c) pulmonary embolism; (d) coronary narrowing or blocking; (e) direct pressure of the diaphragm upon the heart, from distended stomach or intestines; (f) heart-block syncope; (g) thrombus in the heart; (h) air embolism; (i) sudden lack of venous blood-supply to the right heart, as occurs in large hemorrhage, or after abdominal blows; (j) a large group of cases of sudden death occur in myocardial weakness, either acute (toxic or infectious) and chronic in the acute forms, the muscle fibers show cloudy swelling or even fatty change; in the chronic forms there may be fibroid patches or individual muscle fibers, showing cloudy degeneration or fatty changes. Syphilitic changes are also found. The heart-muscle may become exhausted by prolonged tachycardia, as in hyperthyroidism. Most of these hearts also show degenerative changes. Valvular lesions are only to be considered as a factor in cardiac weakness. The possibility of sudden death in angina pectoris, Corrigan's disease, Stokes-Adams disease, aneurysm, recurrent attacks of acute pulmonary edema, should be considered. Besides these, in the presence of thrombosis of systemic veins, and in septicemia, the likelihood of embolism must not be forgotten. Degenerative changes in the ascending aorta are generally accompanied by coronary involvement and may lead to sudden death. Acute or chronic myocarditis predisposes to a like end, in the largest group of cases, from failure of the power of heart contraction, when there is a sudden call for increased heart power. The reserve power of the heart and true heart competency is the essential thing to be determined in prognosis. In an estimation of such conditions, sphygmographic tracings of the heart and vessels, as well as blood-pressure measurements, are a great aid to careful clinical examination.

How Shall We Treat Appendicitis After the First Forty-Eight Hours?

DR. J. E. MOORE, Minneapolis: Physicians and surgeons are now quite unanimous in the opinion that all cases of acute appendicitis should be operated upon during the first forty-eight hours, providing proper facilities and a competent operator are at hand. Without these requisites the mortality is greater with than without operation. After the first forty-eight hours the infection has usually extended beyond the confines of the appendix, and the surgeon can only hope to assist Nature, for he cannot remove the whole of the infection. When the surgeon is called on the third, fourth, or fifth day and the patient is doing well with a temperature below 102 and a pulse below 100, what is his duty? The experienced operator should operate at once, but should be content to remove the appendix and establish drainage. The occasional operator should wait until Nature has done her best. When the surgeon is called late and the patient is doing badly, with a temperature above 102 and a pulse of over 100, it is his duty to operate at once because these are Nature's signals of distress, indicating that she needs assistance. The removal of the appendix and the establishment of drainage meets the indications. More than this is meddlesome surgery. When the surgeon is called late, when the whole abdomen is swollen and boggy, and a so-called general peritonitis is present, what is his duty? A helpful operation is surely indicated. Remove the appendix if it is in evidence, but do not make an extensive search for it. Make two or more incisions and drain both flanks and the bottom of the pelvis with large rubber tubes. Excessive breaking down of adhesions and irrigation of the abdomen do more harm than good, and experience has proved that they are not necessary. Do not cork up the openings with gauze and call that drainage. The position of the patient after operation is of little consequence, so he should be made as comfortable as possible. The pressure within the abdomen is about 16 pounds to the square inch and the pus is bound to follow the line of least resistance, which is out through the openings. Do not give cathartics after operation, as they interfere with Nature's efforts to bring about a cure.

Death Certificates

DR. H. E. ROBERTSON, Minneapolis: Rarely has this subject been dealt with among physicians as it deserves. The ideal state must record the birth, the diseases, and the causes and date of death of each of its citizens. The importance of the subject is not impressed on us in our medical education and we rarely hear it discussed in our meetings. Improper returns are often found: "Sarcoma" and "carcinoma" with no mention of location; "Brain fever" and "Lung fever," obviously obsolete terms; "Accidental injury" with no statement of the accident; "Cardiac embolus following operation," the operation not being indicated. Remedies are recommended as follows: First, provide for some instruction in the subject in our medical schools. Second, make more frequent use of clinical and laboratory tests in the study of our cases. Autopsies are far too infrequent. Third, use more care and thought in filling in the certificate. The standard form requires a "cause of death" and "contributing causes." These may often be determined by the following rule: When resistance has become so lowered by some definite recognizable disease that other definite affections ensue and the patient dies, then we have a cause of death in the first disease and a contributing cause or causes in those that follow. For example, in a subject of acute nephritis dying of bronchopneumonia, the cause of death is "acute diffuse nephritis" and the contributing or secondary cause is "bronchopneumonia." Fourth, frequent consultations are necessary between boards of health, other statistical bureaus, and medical associations in order to maintain a uniform standard and promote better working relations on this important subject.

Management of the Puerperium

DR. FRED E. LEAVITT, St. Paul: The routine use of ergot following parturition is of no demonstrable value. Asepsis rather than antisepsis is needed in the care of maternity patients—soap and water instead of bichlorid. Extensive lacerations can be repaired much better a few days after labor than at the time of delivery. Good results are obtained if properly attended to even after a week. For the main stitch, silkworm and not catgut ought to be relied on. In getting up after delivery, the most satisfactory results follow when patients are encouraged to resume their natural habits soon afterward. After practicing this method for several years, both in private and hospital work, the results are found most satisfactory. In the first place, the patient's strength is not dissipated by remaining passively in bed, the bed pan is dispensed with in bowel and bladder movements, drainage

is favored by the sitting posture, involution is more rapid and more complete, displacements less frequent, etc. After normal labors the patient is encouraged to continue her accustomed habits as far as she is inclined, both as to eating and activities. Even on the first day she may be propped up in bed for meals, get up onto the commode, move freely in bed; the third day she may be up in a comfortable chair for an hour or two, the next day twice as long, and so on, so that by the end of a week she is able to be all over the premises. The assertion is made that no case of disability in women can be traced to too early rising after childbirth.

INDIANA STATE MEDICAL ASSOCIATION

Annual Meeting, held at Fort Wayne, Sept. 28-30, 1910

(Concluded from page 1537)

Malaria in Indiana

Dr. Ada E. Schweitzer, Indiana State Board of Health: There was a time when malaria was a veritable plague in Indiana. A short story of its ravages in the early days and of the ideas and practices of the pioneer physicians, demonstrates the remarkable efficiency of scientific preventive medicine, assisted, as in this case, by industrial and commercial interests. In addition to consulting the usual sources of historical facts, a letter was written to the physician longest in practice in each of the ninety-two counties in the state. Replies were received from only twenty-eight counties, but these were so distributed over the state that every section was represented. These twenty-eight replies do not by any means represent the total number of cases occurring in Indiana during the year. But they do furnish positive evidence that the disease has not been completely eradicated, as many physicians assert. The anopheles mosquito is to be found in almost every part of the state, and every patient, whether he imported the disease or acquired it here, is a source of infection. Hence, we have the two factors necessary to the spread of malaria. This paper is not written in the belief that malaria will ever again be prevalent in Indiana. The state is too well drained and the people are too progressive for that. But physicians should remember that malaria does exist in this state and not allow an incorrect, preconceived opinion as to its absence to influence their diagnoses in the occasional sporadic cases they are likely to encounter at any time during the summer or fall.

DISCUSSION

Dr. George D. Marshall, Kokomo: There is an idea that the anopheles mosquito is a rare one. I have been studying these mosquitoes for four years, and they are plentiful. I can go out and catch three or four of them any time I want to around Kokomo. The people do not recognize the anopheles as a mosquito. I had a case recently of a boy who had spent three months in bed from malarial fever and was being treated for malarial fever at the time. I was called in consultation and gave him quinin in solution and the fever began to disappear, although it comes back once in a while. I was called to see the boy's grandmother, who was vomiting and had a temperature of 103 F. There were mosquitoes there. A year ago a young man in Kokomo died from what I diagnosed as malaria; there was a difference of opinion, and the man was treated for tuberculous meningitis. There is a large family living in the house where this patient lived, and nearly all are ill. I found a mosquito in a shed in the yard where the children played. That's where they got the malaria.

Bacteriology, Pathology and Diagnosis of Typhoid Fever

Dr. W. Shimer, Indiana State Board of Health, read this paper, in which he formulated the following conclusions:

1. Typhoid bacilli are present in the blood of every patient ill with the disease. They appear in the blood with the fever and disappear with the return of the temperature to normal.
2. Typhoid fever is not a true bacteriemia, but is an overflow from the spleen, lymph-glands and bone-marrow.
3. The clinical symptoms of the disease are due to the invasion of the blood by the bacilli, their destruction there, and liberation of their endotoxins. These endotoxins cause degeneration of the body cells and the consequent pathologic physiology.
4. Convalescence and tissue repair begin as soon as the bacilli disappear from the blood.
5. Long-continued or chronic typhoid seems to be due to the persistence of the bacilli in the blood because of the low grade of immunity. Chronic typhoid can sometimes be cured by injecting killed typhoid bacilli.
6. Blood cultures seem to be the method by which we can make the earliest and most certain diagnosis of typhoid fever, for several reasons, e. g., because the bacilli may be in the feces without the patient having the disease; the bacilli appear in the urine rather late in the clinical course of the disease; the destruction of the bacilli in the blood stimulates the production of the agglutinins and other antityphoid immune substances, and must, therefore, appear in the blood before the Widal reaction is positive.

DISCUSSION

Dr. B. W. Rhamy, Fort Wayne: There is no doubt that blood culture is the best-known method of diagnosticating typhoid in the early stage. It is therefore to be deplored that the method cannot be utilized except by those in close proximity to a laboratory. The clot-culture mentioned by Dr. Shimer seems to offer a practical method for those who are at some distance from a laboratory, and no doubt could often be used to good advantage. This clot-culture is made from the clot which forms in the glass capsules in general use for sending blood to a laboratory for the Widal test. It would be necessary for the physician only to draw a well-filled capsule of blood, seal the tips of the capsule in the flame and send to the laboratory, with instructions to make the clot-culture in case the Widal test was negative. There is some difference of opinion among investigators as to the amount of blood necessary for the culture test. Some men advocate small amounts, as from 0.5 to 1 c.c., while others, and perhaps the majority, advise the larger amounts of from 5 to 10 c.c. or more. The reliability of the blood culture, as well as of the Widal test, depends on the stage of the disease and the severity of the infection. Duffy in 1905 gave an excellent illustration in his series of cases. In eighty-eight patients, of whom fifty-six had a temperature above 102 F., he got positive blood cultures in all fifty-six, while in twenty-three with a temperature of from 100 to 101 F., he got positive blood cultures in only ten. This evidently depended on the severity of the blood invasion with its consequent liberation of endotoxins. The advantage of the blood culture over the Widal test is in the fact that the blood in the first week contains the greatest number of bacilli, while the Widal test does not show until these bacteria have stimulated the agglutinating power of the blood. Veil (*Deutsch. med. Wchnschr.*, 1906) compares these two tests in his cases. In thirty-six cases, during the first week, blood cultures were positive in 78 per cent., while the Widal reaction was positive in only 50 per cent. Out of 110 cases during the second week, the blood cultures were positive in only 60 per cent., while the Widal reaction was present in 92 per cent. During the third and fourth weeks the blood-culture percentage steadily decreased, while the Widal percentage remained constant. From these figures, which I believe are a fair representation of the possibilities of the two methods, it seems to me that the blood culture and the Widal test should be used in conjunction in any given case, thereby obtaining a greater percentage of accurate findings, than by the use of one to the exclusion of the other.

DISCUSSION

Dr. B. V. Caffee, Terre Haute: Away from the larger cities it is hard to get culture media. About two years ago in the pathologic society in Terre Haute we demonstrated a method of taking blood culture from a medium which can be obtained in any country village. It is entirely inexpensive and, according to the author of the article describing this method—whose name I have forgotten—it is quite as good as bouillon. He takes ox-gall from the freshly slaughtered beef; he dissects out the gall-bladder, tying the end of it with a ligature, then draws the gall into a test-tube and sterilizes it. By that method, I have demonstrated the typhoid bacteria in blood that came from the ear of a typhoid patient in two cases, and it was shown to be accurate. It seems to me that this method is absolutely reliable, and that it would be an excellent thing when a person cannot get a culture medium, because it is very easy to get ox-gall and entirely without expense.

In regard to infection of attendants in typhoid hospitals, a great change has occurred in the last twelve years. Twelve years ago I saw a demonstration of the infection of typhoid nurses. I was at that time steward in one of the army hos-

pitals at Porto Rico. We had two small regiments and a battery of artillery—less than 2,500 men. In August and September, 1898, we had in our one hospital 268 patients, the majority of whom had typhoid. Of the twenty hospital corps men who nursed these people, fifteen took typhoid; three of the remaining five had had typhoid, and so were immune. We had no protection against flies, no screens, and our water-supply was very bad. But when you compare that with the conditions in hospitals to-day, the difference is as darkness from light.

DR. G. W. MCCASKEY, Fort Wayne: The making of blood cultures is within easy reach of every general practitioner. I have had a fairly large experience along this line of work, though I have not had much experience in typhoid, having been out of general practice for a good many years. Culture media can be obtained in small sealed tubes. I formerly used a tube which I devised myself, hermetically sealed, containing 50, 75 or 100 c.c. They can be used by anyone and can be kept in the office for a year. In getting the culture, all that is needed is a syringe. The physician must sterilize his own hands and the arm of the patient; the needle is then inserted, and a syringeful of blood withdrawn. Then the blood is sent to the laboratory. I use an ordinary hypodermic syringeful of blood. Every physician ought to use blood cultures in these cases; they are within easy reach. I have a case now which I think is very interesting. The patient, a woman, was taken ill 5 or 6 weeks ago suddenly, with severe intestinal pain, diarrhea and a temperature of 102 F.—irregular fever. In a few weeks the fever practically disappeared, but the hemorrhage kept up, with severe pain in the sigmoid. She was gradually going downward, but the temperature was normal. She was taken to the hospital and I thought that perhaps I had tuberculosis to deal with. I submitted some blood to Dr. Rhamy, who reported a positive Widal reaction. Meanwhile, the blood culture was developing, and I submitted that to Dr. Rhamy, and he found the bacilli. This patient was at once placed on autogenous vaccine, and improvement followed; the temperature is perfectly normal; pulse perhaps 85, and the patient is apparently convalescing. This is undoubtedly a case in which the typhoid ulcers were very deep and did not heal after the temperature got back to normal.

DR. FRANK B. WYNN, Indianapolis: One of the commonest and most perplexing situations confronting the general practitioner is to determine in the early course of a fever, whether or not he is dealing with typhoid. The young or the thoughtless practitioner sometimes makes a guess and later is obliged to retract his early diagnosis. The Widal reaction has been a help, but blood culture goes a step farther and permits still earlier diagnosis of the disease.

I think that many of us fail to realize that typhoid fever is not simply a disease of the intestines, but of various organs, notably the lymph-glands, bone-marrow and the spleen; in other words, the blood-making organs of the body. One of the important lessons taught by blood cultures is that the organisms may attack almost any part of the body. I have a case now in which the parotid is infected. Sometimes the tonsils are involved. Indeed, some assert that this is the point of first infection, but I still think that the intestine is probably the primary seat of infection, not the tonsils. The advantages of the blood cultures are: first, early diagnosis; second, the idea which they give of the general dissemination, the wide-spread potency of the disease; and third, it seems to me that these cultural studies will be of immense practical benefit to us in differential diagnosis. A case came under my observation in which during the first five days the patient was delirious, with ordinary clinical picture of typhoid minus the eruption on the abdomen. The blood cultures showed a growth that was so extreme that it was thought there must be some contamination of the medium. The blood was drawn again, and the second test showed that this man did not have typhoid at all, but was suffering from a streptococcus meningitis.

DR. E. SCHMAUSS, Alexandria: I have not seen a case of typhoid in which extensive ulcers of the intestinal tract were not present. I have never seen anything diagnosed as typhoid which did not involve the intestinal tract. Now, the statement made by Dr. Wynn, that in typhoid we have an involvement of the whole body, is, of course true, but I dislike to allow the inference to be drawn that typhoid is not a disease of the intestinal canal primarily, and only secondarily involving the entire system. We would not claim that pneumonia is not a disease of the lungs, or that meningitis is not a disease of the brain, because we find the infective material in other parts of the body. I think we can safely say that typhoid is primarily a disease of the intestinal tract. It is said by some that the tonsils are the primary seat of infection. If this keeps on the tonsils will be held responsible for every ill of the body. No doubt many of our systemic diseases originate in the tonsils, but I think it is too far-fetched to say that the tonsils are the seat of typhoid fever infection. It is stated that the mortality has been reduced to 4 per cent. from 18 per cent. by the use of antitoxin. I have in mind an epidemic in a city, with 400 cases, in which the total mortality was 6 per cent. If these men had 18 per cent., it simply shows that there was misunderstanding or lack of care somewhere. There is no excuse for showing a mortality of 18 per cent., or anything above 10 per cent.

DR. C. S. BOND, Richmond: It is a mistake to make a positive diagnosis the first time one sees a patient. Since the Widal reaction comes relatively late in the course of the disease, it makes it all the more necessary to be careful in the diagnosis. Some time ago I saw a patient in consultation. A little girl came home from a school where there had been a great deal of typhoid, and the physician took it for granted that she had typhoid fever. She had a temperature of 102 F., and she said she had some rose-colored spots on the abdomen. The patient kept going down for two or three weeks, and finally the physician found a little lump in one side of the abdomen. I had the case about six weeks afterward and found a tuberculous mass in that side of the abdomen; and the girl died of tuberculous peritonitis. This physician had made a diagnosis of typhoid fever before he had an opportunity to determine whether the girl had typhoid or not.

DR. ALBERT STERNE, Indianapolis: I want to call attention to those cases which are not atypical, but which at the same time do not permit of accurate diagnosis except with the assistance of complete blood examination, cultures, Widal test, etc. That is the kind of typhoid I see, and not infrequently, either. These cases begin with the symptoms of an ordinary depressant insanity—confusion, sometimes marked delirium, with evidences of brain agitation. There is very little fever—in fact, almost no fever in the beginning; slight rise of temperature in the evening, but hardly more than in the normal state. The mental confusion is not delirium or ordinary mania, it is an ideation which, while more rapid than normal, savors of the fixed rather than the rapid ideation which appears when there is inability to express an idea by word of mouth. In these cases I frequently test, not the blood, but the spinal fluid. It is in such cases that laboratory methods of diagnosis are necessary. Diagnosis is practically out of the question without them.

DR. JOHN C. FRETZ, Deedsville: The statement was made that it was inexcusable for a physician to lose more than 10 per cent. of typhoid cases. I do not know any man who has lost 10 per cent.; but who has the right to say what percentage a man may lose? I do not want an expression made in this society to go out over the state and to the laity that a man has no right to lose more than 10 per cent. of his typhoid patients.

DR. A. P. BUCHMAN, Fort Wayne: In diphtheria we have an absolute specific, and that specific is so harmless that its use cannot do the patient any harm. In typhoid fever we have nothing of this sort. It is the individual patient whom we have to look after, and the man who has a reasonable amount of experience and knows how to get the history of his case, in seventy-five out of eighty cases can make a diagnosis of typhoid fever that is reliable within from 2 to 5 days of the inception of the disease—if he watches the patient closely and watches the symptoms. The five cases

that are left are the cases for which we need the laboratory; but the idea that by means of the laboratory one can make a diagnosis, without symptoms and without a history of the cases is absolutely fallacious. The tendency is to laboratory mania. The Widal test does not always occur within the same time. In some of the carefully watched cases the test did not show the disease. There was something wrong somewhere. I feel confident that in time these tests will become more reliable, but the practice is in its infancy, and the man who talks about absolute certainty is wrong.

DR. W. SHIMER: This subject of typhoid seems old, and yet I think one of the biggest problems we have in America is that of control and eradication of typhoid fever. Robert Koch at his death was trying to solve this problem for Germany. Any culture medium in which typhoid bacilli will grow is good to use. The main thing is that it must be absolutely sterile. One can use ox-gall, broth, anything. The Epstein medium is of special value because it can be carried in a small tube in the pocket. If it is not taken to the laboratory for 12 to 24 hours, the bacilli will grow in the solution.

The difficulties of taking the blood have been magnified considerably. I have done it often within 5 minutes. Dr. Simonds and I at the State Bacteriologic Laboratory have often drawn from our own veins from 10 to 15 c.c. of blood, and never put any bandage on. It is the easiest thing in the world, especially in people who are somewhat spare. Put the needle into one of the large veins of the elbow, and when you get through just pull out your needle. It is as easy as a hypodermic injection. Accuracy is absolutely necessary, and lack of it means contamination. Often surgeons, who know so much about asepsis, will bring in fluid full of bacteria, and yet they think they have been extraordinarily observant of asepsis.

Many instances have been reported of discrepancies between positive and negative findings in blood cultures. A large number of cases are necessary for conclusions to be of value. Coleman and Buxton had pretty nearly 2,000 cases. The German army statistics, which show from 12 to 18 per cent. mortality, were the average of a large number of cases. One cannot draw conclusions from the experiences of a man in general practice or in a small hospital. There seems to be some misconception of the difference between serum and vaccine. A therapeutic serum is a serum from an animal that has been inoculated with a specific bacterium, and a vaccine is made from the dead bacteria; both are injected to produce immunity to the specific organism in question. They are, however, entirely different preparations.

Plea for Cesarean Section, Based on a Report of Fifty-Three Operations Performed in Indiana

DR. G. W. H. KEMPER, Muncie: Formerly this operation was regarded as the *dernier ressort* of midwifery. In other words, after the unfortunate woman had been subjected to efforts at delivery with forceps and version, and reduced to exhaustion, and the fetus subjected to injuries, the abdomen was incised, and if death resulted to mother or child, or both, it was attributed to the Cesarean section. It was like the early beginning of antitoxin, which might be tried for diphtheria after all other remedies failed, and then incurred the blame for a death it did not cause, and declared to be inert or harmful when it had not been given a fair test. I have collected from various operators, fifty-three cases of Cesarean sections done in Indiana. The first case of which I can find a record was performed near Madison, Jan. 29, 1863, and the last, August 20, 1910. The following is an analysis of the fifty-three cases:

	Cases.
Mother and child saved	27
Mother alone saved	11
Total number of mothers saved	38
Mother and child lost	7
Mother alone lost	8
Total number of mothers lost	15
Child saved with mother	27
Child alone saved	8
Total number of children saved	35
Child lost with mother	7
Child alone lost	11
Total number of children lost	18
Total number of mothers and children saved	73
Total number of mothers and children lost	33

I would not inculcate the idea that the physician is to open the abdomen rashly. The responsibility should be divided with one or more competent advisers. In the language of Oliver Wendell Holmes:

"The woman about to become a mother should be the object of trembling care and sympathy, wherever she bears her burden or stretches her aching limbs. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly."

Conservatism of Elective Cesarean Section

DR. O. G. PFAFF, Indianapolis: In obstetrics conservatism has ever been the dominating spirit. Parturition has been for ages venerated as one of Nature's processes, complete and perfect in itself, and until recently was surrounded by a sort of mystical halo which repelled all tendencies toward interference with the operations of its sacred laws. I wish here to refer to three cases very briefly. All patients were operated on at St. Vincent's Hospital. In one case, a woman with interstitial pregnancy was operated on at six months; the mother made a prompt recovery. In the second, at full term after more than twenty-four hours of violent labor with many attempts at forceps extraction, both mother and child were saved without any complication in recovery. The third patient was in labor all day and far into the night. The pelvis was deformed—less than three inches in the transverse diameter. The patient was taken to St. Vincent's Hospital. The membranes were intact and she had not been violently handled. The operation was done quickly and for several days everything looked well. On the fifth day there was rise in temperature and pulse-rate. The wound appeared to be in perfect condition. The symptoms increased and the next day the wound was again examined and found to have opened; the omentum presented at the upper angle. The catgut had evidently been absorbed early and the peritoneum and deep structures had retracted, allowing the omentum to become a wedge, which gradually forced its way to the surface. I resutured with catgut and reinforced the entire wound with silk-worm gut. However, the cavity had already suffered infection and the woman died. The death is probably chargeable to a surgical accident such as might occur in the simplest abdominal section, and bears no relation at all to the specific cause for which the woman was operated on. The child is alive and well. My conclusions are these: Elective Cesarean section is one of the safest of major operations, being favorably comparable with the interval operation in appendicitis, that is, it shows a mortality conservatively estimated at 3 per cent. or less when performed by capable surgeons in well-equipped hospitals. This low mortality by no means excuses unnecessary operations, but it certainly justifies us in undertaking this procedure for various indications not heretofore considered valid. When experienced judgment decides that a debilitated, poorly equipped woman is to encounter any serious danger in natural delivery, Cesarean section is the safest course. It is the best course in grave albuminuria before the onset of labor, or in placenta prævia immediately on recognition of the condition. Whenever through a deformed or narrow pelvis, or one obstructed by any growth, or because of an unusually large child natural delivery is impossible, section is the only humane procedure. Cesarean section is purely and exclusively a hospital operation and is to be placed on a firm basis through a careful study of the work of those experts who in our large maternity hospitals are devoting their lives to the development of this most beneficent and truly conservative procedure.

DISCUSSION

DR. WALTER SCHELL, Terre Haute: I agree with Dr. Kemper that Cesarean section should not be a matter of last resort. It is as difficult to make a proper high-forceps application as to do any operation within the realm of surgery, and the reward should be proportionate. Any man who has ever performed Cesarean section—any man who is capable of

performing this operation properly—is competent to do anything that any other surgeon can do, therefore he should have a proportionate recognition of his knowledge and skill. If a man is a properly trained obstetrician he should know in advance that in a given case he will probably have trouble, and he should know within relatively narrow limits the kind of trouble he is going to have. Every woman who engages a physician for confinement has a right to expect of him the very best service and knowledge. It should never be necessary for a physician to go to an obstetrical case without having seen the patient before. In the past, physicians hesitated somewhat to perform this operation quickly and promptly, and this delay in the extraction of the child, and delay in placing themselves in position to control hemorrhage was one of the reasons for the immense mortality. This operation received a new impulse and new life and took on new surgical aspect after Sawyer demonstrated the absolute necessity of gradually closing the wound in the uterus.

The question whether Cesarean section is safer than the forceps or traction operation depends on the character of the forceps operation. In a high-forceps operation in which the pelvis diameters are less than 10 cm., and the child above average size, then wounds may be inflicted on the woman that may result, if not in death, at least in making her a cripple for the rest of her life. I feel that the high-forceps operation is an exceedingly difficult one.

DR. M. F. PORTER, Fort Wayne: It has been years since I have consented, nor will I ever again consent, to doing a craniotomy on a living child, unless it is a monster or something of that sort. I do not think that I have any right to do it. I know that I can deliver a woman by Cesarean section and give her a better chance for life than I can by high-forceps application. I think that this line of surgery has been very much neglected. More than half of the mothers are delivered without the presence of a physician, and yet when a woman comes out of labor she comes out under conditions that make it necessary for her to undergo inherent risks far greater than she would undergo in any ordinary surgical operation.

In a large percentage of high-forceps deliveries the child is seriously injured; 50 per cent. of these children so injured are injured permanently; 30 per cent. subsequently become epileptics; 20 per cent. of the children in the Indiana School for the Feeble-Minded are there because of a high-forceps operation. In the light of these facts we must stop in large measure these brutal so-called operations, for they are brutal. The maternal morbidity after this operation is as great as after Cesarean section done by an intelligent hand and under proper circumstances. So far as the morbidity of the child is concerned, in such cases, no man can deliver a woman and give the child as good a chance by ordinary delivery as by Cesarean section. The risk to the child is infinitely less than by ordinary normal labor.

DR. JOSEPH N. STUDY, Cambridge City: I think it is time that physicians throughout the country knew more about this important subject. What is to be done for the women so situated that they cannot have the advantage of a hospital, and who are seen at a time in their confinement when they cannot be taken to a hospital? It is true that the high-forceps operation injures the child, and in many cases causes feeble-mindedness, but a physician is frequently called to a case in which labor is well advanced; something must be done immediately. In such circumstances, if the child cannot be born through the natural passage without reducing its head, it seems to me proper and just that craniotomy be done, if the child cannot be delivered by forceps or otherwise.

DR. F. A. MCGREW, La Porte: I want to place on record an unusually interesting and unique case of Cesarean section by accident. The patient was a young woman, healthy and vigorous, a farmer's wife. Within two weeks of confinement, while she was sitting in the kitchen, her brother, sitting about ten feet away, had a shotgun across his knees and was cleaning the barrel. The gun was discharged and the full force of the shot entered the woman's abdomen. The whole front of the abdominal wall and the front and upper part of the fundus of the uterus were torn away. The placenta was also torn loose, and the child was half expelled into the outer world; the buttocks and back of the child protruded from the abdomen. The woman walked into another room to her bed, where she lay down and was covered up with the ordinary bed clothing. About an hour later an operation was undertaken on an ordinary kitchen table, and the house was none too clean. The woman's condition was much better than might have been expected. She was pale and somewhat anemic, but the pulse was fairly good and she was a woman of great nervous force. She stood the operation well. The child was extracted—dead, of course—the uterus was removed and the stump fastened against the lower end of the abdomen roof against the peritoneum, so that drainage could be instituted. Three or four days later the patient was removed to a hospital, in order to have the benefit of a trained nurse and better attention. She recovered without incident. However, about six months later I was compelled to operate for intestinal disturbance, and on opening the abdomen I discovered that the cervix and peritoneum, where they had been fastened together, had drawn out into a band, which was the cause of the intestinal disturbance. The band was severed the intestine was in good shape. The woman once more recovered without complication, and she is now in good health, and doing her own work.

DR. E. SCHMAUSS, Alexandria: In the last case reported I see no use in bringing the cervix stump up to the peritoneum. It could have been drained through the vagina. In the case at St. Vincent's Hospital, the defect in suturing was undoubtedly due to hasty work. So long as the mother is in good condition and the child is alive, there is no need of haste, and if this patient had been carefully sewed up and adhesive strips had been put on, this accident would have been avoided. One of the hardest things to decide in these cases is when to perform the Cesarean section in preference to the high-forceps operation. It is not so much the question of the living child as of the laceration of the mother.

DR. PAUL MARTIN: In expert hands the maternal mortality rate for Cesarean section is less than 2 per cent.; the fetal mortality is *nil*, and if we undertake always to do an elective Cesarean section rather than that of emergency, I am sure this rate can be very much reduced. In general in contracted pelvis the fetal mortality rate is 20 per cent.; from forceps it is from 35 to 60 per cent.; by inducing labor, the rate is 30 per cent. There are certain other cases, simply a slight narrowing of the pelvis, or a rigid, hard cervix and unyielding soft parts, which may be directly responsible for incompetency for normal labor. This should be recognized, and early conservative methods adopted. Cesarean section affords less risk to the child than the other methods or delivery, and perhaps equal chance to the mother of a healthy life. I believe that to-day the morbidity of the mother and the fetal mortality in the results which we get, are due to the inefficient application of the forceps, and the dangers of the applications of forceps I do not think can be over-estimated.

Differential Diagnosis of Labyrinthine Suppuration and Cerebellar Abscess

DR. JOHN J. KYLE, Indianapolis: The observations herein advanced are the result of the study of Neumann's work on cerebellar abscess, and my own personal observation of the work of Barany at the General Hospital in Vienna on nystagmus and its value as a diagnostic factor in labyrinthine and cerebellar diseases. The conclusions of Neumann are as follows:

It therefore follows, if it is allowable to draw any conclusions from the certainly small number of cases, that in the acute cases labyrinthine suppuration plays no rôle in the origination of cerebellar abscess, but that the latter is set up either through the instrumentality of a sinus phlebitis or an extradural abscess of the posterior fossa. An entirely different picture is presented by the chronic cases, in the majority of which the cerebellar abscess is of labyrinthine origin, and the path of conduction is more often the aqueductus vestibuli.

To recapitulate the symptoms of circumscribed suppuration of the labyrinth, we have acute or chronic suppuration of the middle ear, deafness, pain in the ear, variations in tem-

perature, giddiness, disturbances in locomotion, sometimes facial paralysis, with marked probability of meningitis or abscess of the brain, or sinus thrombosis. In cerebellar abscess from internal ear suppuration—and they are usually associated—we have pain in the occiput or forehead, hemiparesis on the affected side, spontaneous nystagmus sometimes to the affected side, tendency of the patient to lie on the diseased side, disturbance of speech of a bulbar character, stiffness of the neck muscles on the affected side; the patient will support the head whenever any movement is necessary; nausea and vomiting are present and, in extreme cases, convulsions, muscular depression of the abdomen, Cheyne-Stokes respiration, and delirium. The nystagmus, either spontaneous or induced, will be to the side of the lesion. Differential diagnosis of course must be made between temporal lobe abscess, meningitis and sinus thrombosis. This may require surgical exploration, which should be advocated. In the 196 cases reported by Neumann, 25.98 per cent. of the patients were cured.

DISCUSSION

Dr. G. W. Spohn, Elkhart: I hold that there would be no abscess without a discharging ear—a chronic discharging ear. It is rare to have abscess of the brain from acute suppuration of the ear. Whenever the labyrinth is affected in any way, there is nearly always nausea and dizziness. When there is fistula from a bony condition and not from a membranous condition, we do not have suppurating labyrinthitis, but serous labyrinthitis. When there is dizziness and nausea, infection of the labyrinth is present. These symptoms will last for from 2 to 6 days, but generally only from 3 to 4 days, and of course no one can operate while the acute condition exists. Very seldom does brain abscess follow labyrinthitis. Abscess of the cerebellum goes almost directly to the sinus of the posterior fossa. To differentiate between the two: When we get stiffness of the neck, a discharging ear, no dizziness, no nausea, that will eliminate the labyrinth. If there are stiff neck and soreness right over the cerebellum, it is abscess of the cerebellum. A stiff neck points almost directly to the cerebellum or the posterior fossa. Few of these cases of acute middle-ear suppuration end in abscess of the brain.

The Hygiene of Menstruation

Dr. Jane W. Ketcham, Indianapolis: Healthy women should be able to follow their usual occupation during their menstrual periods. It is amazing how many women live in poor surroundings; they have just enough vitality to get along. If the general conditions in which these women live be improved and their well-being brought a little above par, so that they have enough vitality to spare for any unusual drain their menstrual difficulties will disappear. Good ventilation, warm clothing, regular habits—including sufficient sleep—and food of the plain and wholesome kind are of great importance. The patient must have outdoor exercise every day, regardless of the weather.

The less medication the better. The time to give medicine is between the menses, and then the medication should be tonic and alterative. Alcoholic beverages should not be given for the relief of pain in this condition. There are other drugs which are infinitely more desirable. The Russell Sage Foundation, which has for its aim the study of sociologic conditions, has reported that in New York City one woman in every four is a wage-earner. This is a larger proportion than is commonly supposed, and moreover, it is a condition which is not confined to New York City. This includes of necessity women of various classes, conditions and ages. Are they undermining their own health, or are they building it up? Are they endangering the health of the next generation, or will they transmit a tougher fiber? The economic importance of this question is on the increase from day to day, since the number of women who work is everywhere increasing.

DISCUSSION

Dr. J. M. Dinnen, Fort Wayne: I have been impressed with a serious error that has been made in this variety of cases, and that is the constant meddling with these conditions. I do not believe that any girl arriving at the age of puberty should be submitted to an examination without mature deliberation. I think all the conditions surrounding the patient should be taken into consideration, her habits of life, her mode of living, her surroundings, for I believe that enters more largely into the conditions at that time than anything else. The school girl is engaged at times with social duties, and few of them will cut out the social duty on account of the menstrual condition. I believe that the physical condition of the patient should be taken into consideration—whether or not she is anemic; and whether her surroundings are such as one could wish. The patient should be put into the hands of a person who is thoroughly competent and who will use the best judgment and not accede to the wishes of mother or child. A perfectly healthy child might menstruate at 12, another at 16, but if menstruation is delayed until 16 there are conditions there that should be looked into, conditions that may be a forerunner of something else.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 12

1 *Relation of the Acid-Fast Tubercle Bacillus to Other Forms of Bacterial Life. S. J. Maher, New Haven, Conn.
2 Diagnostic and Therapeutic Value of Lumbar Puncture. L. Louria, Brooklyn, N. Y.
3 Insufficiency of the Pylorus. M. I. Knapp, New York.
4 *Peculiar Results of Eye-Strain. W. M. Richards, New York.
5 Technic of Examination of the Duodenal Contents. M. Gross, F. v. Oefele and M. Rosenberg, New York.
6 Death Under Gas and Oxygen Anesthesia. G. F. Lydston, Chicago.

1. Acid-Fast Tubercle Bacillus.—Maher maintains that the acid-fast tubercle bacillus is simply a most highly specialized acid-fast bacillus that has acquired the faculty of resisting the lytic power of the animal cell. And that like all other acid-fast bacilli, it was derived originally from a non-acid-fast bacillus. The hope of the infected animal lies in depriving him of his acid-fast armor and weapons. The great sensitiveness of the tubercle bacillus to change of environment *in vitro*, affords a key to the solution of Nature's cures of tuberculous animals. When the infected animal is cured by change and fresh air, is it not, Maher asks, because in the new environment the tubercle bacillus has difficulty in perfecting its acid-fast development and therefore grows non-acid-fast or poorly acid-fast, or breaks up into cocci, which may or may not win the next battle with the cells? If the cells win, the patient recovers. If the cells lose, the coccal and rod forms quickly break-down surrounding tissue entrenchments. The so-called secondary invaders are practically always, he says, derivatives of the struggling acid-fast tubercle bacillus. The acid-fast tubercle bacilli develop into culturable cocci and non-acid-fast bacilli.

4. Eye-Strain.—Richards mentions disorders of sleep, posterior nasal catarrh, digestive disturbances, and claims to have given relief in asthma and hoarseness by fitting glasses.

New York Medical Journal

November 12

7 Sources of Infection in Venereal Diseases in New York. F. Bierhoff, New York.
8 Gross Drugs vs. Active Principles. G. F. Butler, Chicago.
9 Serodiagnosis of Syphilis, Using the Noguchi System. W. A. Groat, Syracuse, N. Y.
10 The Ehrlich-Hata "606" in Syphilis. J. A. Fordyce, New York.
11 The Roentgen-Ray and the Special Senses. E. H. Skinner, Kansas City, Mo.
12 *Roentgen-Ray Treatment of Carcinoma of the Breast. R. H. Boggs, Pittsburg, Pa.
13 Prophylaxis of Enterocolitis. W. H. Randle, Germantown, Pa.
14 What Shall We Do to Prevent Lateral Curvature of the Spine? M. Strunsky, New York.
15 Technic and General Use for Ehrlich's Arsenobenzol. A. L. Wolbarst, New York.
16 Accidental Detachment of the Normally Implanted Placenta. W. S. Picotte, Ishpeming, Mich.

12. Abstracted in The Journal, Oct. 29, 1910, p. 1583.

Boston Medical and Surgical Journal

November 10

17 Spinal Anesthesia. F. Allen, Boston.
18 *Etiology of Elephantiasis. G. C. Shattuck, Boston.
19 Congenital Ophthalmoplegia Externa. S. G. Webber, Boston.
20 *Technic of Arthrotomy. C. F. Painter and A. P. Cornwall, Boston.
21 *Cutaneous Diphtheria. E. H. Place, Boston.
22 Conical Stump After Amputation in Childhood. C. A. Powers, Denver, Colo.

18. Etiology of Elephantiasis.—Shattuck undertook by a review of the literature to ascertain the present state of knowledge of this disease. He now believes that the essential characteristics of typical acquired elephantiasis are lymphangiectasis, hyperplasia of connective tissue, and chronic edema. The relation of these to each other in the production of elephantiasis is not clear. It appears that these changes may frequently be attributed to the interaction of stasis and of inflammation. Stasis always occurs early and persists. Inflammation may precede or follow stasis, or may not be manifest at any stage of the disease. Inflammation when present may be acute or chronic; and is generally traceable to bacterial infection. Either chronic stasis or inflammation from any cause may predispose to elephantiasis, but even when they occur together, elephantiasis does not always result. There is reason to suppose that congenital weakness or anomalies of lymphatics may play an essential part in the production of some cases of elephantiasis; and that such weakness or anomalies can be inherited. The filaria is an important factor in the production of endemic elephantiasis of some regions, but it is not essential to the occurrence of endemic elephantiasis. Elephantiasis in filarial regions results indirectly from filariasis through bacterial infection. Sporadic lymphatic elephantiasis and endemic elephantiasis are not essentially different.

20. Technic in Arthrotomy.—In this series of 198 cases there were thirteen erasions—nine in men, four in women. There was one slight skin infection among these. One case was so bad when the joint was opened that an excision was attempted, but the disease extended so far into the tibia that a thigh amputation had to be done. One case was a wrist. The others were all tuberculous knee-joints. There was one death among this group, and that was a few days after leaving the hospital and was due to tuberculous meningitis. It was observed in studying the cases in this group, viz., the excisions and erasions, that the danger of disseminating a tuberculous infection through surgical procedure is not a wholly negligible matter. The authors show that care must be exercised to allow Nature to start her protective immunizing processes, both local and general, before one takes the risk of opening up new tissue to infection and absorption.

21. Cutaneous Diphtheria.—In the case reported by Place, that of an infant aged 7 months, two days before admission swelling and redness became marked over the area of the abdomen, genitals and thighs covered by the diaper. There was a considerable thin discharge. Over the lower third of the abdomen, the vulva, perineum, anterior part of buttocks and the upper quarter of the internal surface of the thighs, the skin was markedly reddened, swollen and covered with a grayish hyaline membrane, firmly adherent, and when forcibly removed left a granular area which bled easily. Scattered through this area, especially the lower part, were small various shaped islands of healthy skin, some connected by narrow bands of healthy skin. There were no vesicles or pustules, and the skin elsewhere was normal. Cultures from the skin showed typical diphtheria bacilli. Cultures from the nose and throat and from the nose and throat of the mother showed no diphtheria bacilli. The necropsy showed, besides the skin lesions, some hyperplasia of the lymphoid tissue, "septic" spleen, beginning bronchopneumonia of both bases and some pus in the middle ear. The source of the infection was not discovered.

Albany Medical Annals

November

23 *Physics of Light and Electrotherapy. T. D. Crothers, Hartford, Conn.
24 The Diagnostic House. A. MacFarlane, Albany.

23. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1223.

New Orleans Medical and Surgical Journal

November

25 Local Anesthesia with Quinin and Urea Hydrochlorid. C. W. Allen, New Orleans.
26 Bumm's Round Ligament Fixation. W. Kohlmann, New Orleans.
27 Treatment of Tabes Dorsalis. T. A. Williams, Washington, D. C.
28 Spinal Anesthesia. S. P. Delaup, New Orleans.
29 *Autoserotherapy in Treatment of Fluids in Serous Cavities. I. I. Lemann, New Orleans.
30 Acrophagy. F. E. Lamothe, New Orleans.
31 Displacement of the Heart. A. E. Fossier, New Orleans.
32 Successful Use of Chromium Sulphate in a Case of Ataxic Paraplegia. B. O. LeBlanc, St. Gabriel, La.

29. Autoserotherapy.—Lemann reports three cases in which this method of treatment proved successful. The first case was also one of pleurisy with effusion. The second was a case of chronic parenchymatous nephritis, where the patient not only had an accumulation fluid in the left pleura, but was also generally anasarcous. The third case was one of ascites.

Western Medical Review, Omaha, Neb.

November

33 The Owen Bill and Its Opponents. S. A. Knopf, New York.
34 Pathology and Treatment of Acute Puerperal Sepsis. J. R. McKirahan, North Platte, Neb.
35 Progress of Medicine in Nebraska. W. C. Bartlett, Alma, Neb.
36 Ochsner Treatment of Appendicitis Applied to Treatment of Nausea and Vomiting of Pregnancy. A. B. Somers, Omaha, Neb.
37 *Operation for Prolapsus Uteri. C. A. Roeder, Grand Island, Neb.
38 Significance of Cough in Disease. J. B. Hardy, Stanton, Neb.

37. Prolapse of the Uterus.—The essential factor in the production of prolapse of the uterus, says Roeder, is the recession of the cervix from the hollow of the sacrum. In the posterior positions of the uterus in nullipara we often find the posterior vaginal wall shorter than normal, and it is just here where the primary cause of the trouble lies. Simple shortening of ligaments or suspensions is not so successful, because the cervix is held more firmly out of place by the patient's abnormally shortened posterior vaginal wall. In these cases Roeder first lengthens the posterior vaginal wall, through the vagina, by a transverse incision, freely loosening it from the rectum, and sewing the transverse incision up longitudinally, then proceeding with the abdominal operation. In case the incision through the vagina seems too difficult, he opens the abdomen at once, incises the peritoneum covering the cul-de-sac of Douglas, brushes back with gauze the posterior vaginal wall from the rectum, and sews the uterosacral ligaments to the loosened vaginal wall, covering all denuded areas with peritoneum. Then, after the method of Coffey, he folds the inferior half of the broad ligaments over the posterior portion of the uterus, the superior half over the anterior, which helps to antevert the uterus. The round ligaments are shortened and strengthened at the weakest points after the method of Mayo, folding them over at the attachments of the internal ring.

Illinois Medical Journal, Springfield

November

39 *Dislocation of the Atlas. C. E. Black, Jacksonville.
40 *Medical Treatment of Pelvic Diseases of Women from the Standpoint of the Surgeon. J. F. Percy, Galesburg.
41 Extrauterine Pregnancy. E. C. Franing, Galesburg.
42 *Prophylaxis of Postoperative Cystitis. E. C. Dudley, Chicago.
43 Radium in the Treatment of Cancer, Angioma and Keloid. L. Wickham, Paris, France.
44 *Two Thousand Blood Examinations for Hemamœba Malariæ. T. M. Aderhold, Zeigler.
45 Tabes Dorsalis and the Surgeon. G. W. Hall, Chicago.
46 Campaign Against Summer Diarrhea in Chicago in 1909. C. Hedger, Chicago.
47 Modern Operative Treatment of Varicocele of the Spermatic Cord. A. P. Heineck, Chicago.
48 Cancer of the Uterus. G. C. Kasdorf, Robinson.

39. Dislocation of Atlas.—While riding, the patient's horse stumbled and fell, throwing him over its head in such a way that he struck with the principal weight on his forehead. He felt something "snap" in his neck and had to support his head with his hands if he made a sudden movement, and for this reason he could not get back on his horse, but was able to walk home several miles, although he had con-

siderable pain in the occipital region. He could not turn his head from side to side and could not open his mouth more than half an inch. He found that swallowing was interfered with by something which pushed forward the front part of his neck. For three weeks he went about visiting among the neighbors, waiting for conditions to improve so that he could return to work. He could walk with tolerable comfort. When there was any unusual action or strain or when he wished to get up from bed or from a reclining posture, he had to support his head with his hands, but when erect he could walk long distances without distress. He reported that he frequently walked as far as 10 miles a day, but could not ride horseback or in a wagon or buggy. The pain in the occipital region continued, he tired more easily than before the injury and the stiffness and swelling did not disappear. After waiting three weeks a diagnosis of dislocation or fracture of a cervical vertebra was made. There was absence of motor, sensory or reflex symptoms. He complained of pain on moving the head and at times complained of frontal headache. A curious symptom was that pressing his feet against the foot-board of his bed seemed to relieve the headache temporarily. He complained of pain in the muscles of the neck, all of which were held rigid and tense and sometimes there was twitching of the muscles of the right side of the face. At times he had a pain which began at the level of the thyroid crest which pressed forward and extended around to the left ear. The face was held slightly to the left and could be rotated a little to that side, but not at all to the right, while the head was slightly tilted to the right. This tilting of the head was greater than it appeared as the bending of the lower vertebræ compensated the deformity at the junction of the atlas and axis. He entered the hospital in the evening and was put to bed. Appetite was good; bowels were constipated; pulse was 88; respiration was 16; temperature was 98.6. The first night he slept quietly and comfortably from 8:30 p. m. to 6 a. m. After making a careful examination, a diagnosis of dislocation of the atlas with probable fracture was ventured. The skiagraph fully confirmed this diagnosis. This was taken with the patient lying on his left side and showed the forward dislocation of the atlas and gives a reasonable presumption of fracture of the odontoid. It would hardly be possible to get such a picture with the odontoid intact. A plaster splint was made to fit the back, shoulders, neck and back of head, which was held in place by bandages. This kept him rigidly in one position and made him more comfortable. After three weeks an attempt was made to reduce the dislocation, first by manipulation, extension, flexion, rotation, without success, and then by the open method. A median incision was made extending well up on the occiput and down to the spinous process of the sixth cervical vertebra. This gave a free exposure of the region of the atlas and axis. The spinous process of the axis had been fractured near the tip and the lamina on the right side of the axis had been fractured. Both of these fractures were firmly united in the seven weeks which had intervened. The right lateral process of the atlas was rotated forward into the intervertebral notch. The posterior arch of the atlas was thrown upward almost against the edge of the foramen magnum and forward across the opening. After securing free exposure of all parts, an attempt was made to effect a reduction, but without avail. A new plaster cast was applied to the head, neck, shoulders, and back and the patient returned to bed in good condition. He was kept in the cast for six weeks, at which time he was able to walk about comfortably, but he did not leave the hospital until December 12. He seemed perfectly strong and well, except for a stiff and deformed neck. About five weeks later he returned with symptoms indicating that degeneration of the cord was in progress. The patient died from respiratory failure.

40, 44. Abstracted in The Journal, May 28, 1910, p. 1808.

42. Abstracted in The Journal, June 4, 1910, p. 1892.

Ohio State Medical Journal, Columbus

November

49 Symptoms Which Would Lead to Early Diagnosis of Cancer of the Rectum. L. J. Hirschman, Detroit.
50 *Intravesical Operations. C. M. Harpster, Toledo.
51 *Two Interesting Liver Cases. E. W. Mitchell, Cincinnati.
52 *Prognosis in the Traumatic Neuroses. L. Miller, Toledo.
53 *Extensive Syphilitic Ulceration of Tertiary Nature. A. Ravogli, Cincinnati.
54 Nutrition of Twins and Triplets. R. L. Jett, Cleveland.
55 Muscular Deviations and Suggestions of a New Nomenclature. J. E. Cogan, Cleveland.
56 Chorioidal Atrophy in Myopia. W. S. Keller, Cincinnati.

50. Abstracted in The Journal, July 16, 1910, p. 1246.

51. **Two Interesting Liver Cases.**—Both cases reported by Mitchell were in young subjects. Both began insidiously with all evidences of a simple catarrhal jaundice and were so looked on until considerable and rapidly increasing enlargement of the liver showed that they were of more serious nature. In both jaundice was very marked. In both the liver shrank rapidly in size as the symptoms of grave icterus developed. In one patient this condition developed abruptly and terminated in death in the surprisingly short time of thirty-six hours. In the other patient the development was somewhat less abrupt and the duration several days. In both the terminal clinical pictures most clearly resembled acute yellow atrophy. The pathologist showed that both these cases were instances of cirrhosis of the liver.

52. Abstracted in The Journal, June 4, 1910, p. 1895.

53. **Syphilitic Ulceration.**—In Ravogli's case, the ulcer on a thick and infiltrated base consisting of red elevated nodules, began in the upper part of the right inguinal region, involving the whole fossa cruro genitalis and the labium of the same side. In an irregular serpiginous way it descended down to the thigh involving a large area of the gluteal region and the perineum, descending toward the anus. One ulcer was also found on the other side of the gluteal region just on the surface of the skin touching the ulcerated spot of the opposite side showing a local inoculation. An extensive scar on the posterior region of the thigh bears witness of more extensive ulceration already healed up. The ulcer consisted of an aggregation of small nodules causing an infiltration of the whole surface. Some of the nodules were broken down, some covered with thick crusts, some vegetating forming thick papillæ. The right labium was thickly infiltrated, enlarged, elephantiasic, and through the ulcerated surface, adherent to the thigh and drawn downward. The diagnosis was that of syphilis ulcerosa præcox. Wassermann test with Noguchi method gave a positive reaction. The Moro test for tuberculosis was negative. The woman was treated generally with gray oil injections twice a week, and internally potassium iodid and an iron tonic. In a short time she improved considerably in her nutrition and in her general health. The ulcer was treated locally by bathing with 1 to 2,000 bichlorid solution, and covered with calomel in Wilson ointment, 20 grains to the ounce. The ulcer was slowly improving, yet not fast enough to give satisfaction. The patient was subjected to general anesthesia with ethylchlorid followed by ether. The ulcer was thoroughly curetted, the labium was detached and corrected; during the operation it bled profusely. The hemorrhage was checked, the wound was covered with iodoform dressing. The same manner of dressing was continued, the wound was clean, and in a relatively short time, healed up completely leaving a soft regular scar.

Yale Medical Journal, New Haven

October

57 A Medical Retrospect. W. T. Councilman, Cambridge, Mass.
58 *Therapeutic Use of Tuberculin. D. R. Lyman, Wallingford, Conn.

58. **Therapeutic Use of Tuberculin.**—Statistics for sixty-seven cases treated with tuberculin at the Gaylord Farm Sanatorium, and 374 without, in the five years prior to Jan. 1, 1910, show that of the incipients, 82 per cent. of those treated and 83 per cent. of the untreated are now at work with the disease arrested. Of the moderately advanced, the figures are 40 per cent. for the treated, and 48 per cent. for the untreated; of the far advanced, 10 per cent. and 11 per cent. respectively. These figures show no appreciable difference between the treated and untreated cases; the slight additional percentage being, in fact, in favor of the untreated. If, however, says Lyman, one reviews these same cases from

the standpoint of any possible increase in resistance, as shown from the death-rate, it is found that of the incipients treated with tuberculin none has died, while there are 4 per cent. of deaths among the patients untreated; the moderately advanced show 27 per cent. as against 19 per cent., indicating, perhaps, some increase in resistance from its use, especially in the more advanced cases. Lyman's impressions on the whole are more hopeful as to its future in tuberculosis therapy than these statistics would imply. It is not in itself a cure, but in suitable cases, and given with utmost care, it is undoubtedly a great aid in some instances. In many cases after the ordinary sanatorium régime has brought the patient's general condition up to normal, but when constant relapses are occurring and the patient is apparently losing ground, its use has been followed by marked and often apparently permanent improvement. The patients experience a distinct increase in general strength, they can do more without tiring, and sometimes there is distinct increase of appetite, decrease of slight persisting temperature, and relief of pain from chronic dry pleurisy.

Annals of Surgery, Philadelphia

November

59 Atony of the Bladder Without Obstruction or Signs of Organic Nervous Diseases. J. W. T. Walker, London.
60 Congenital Strictures of the Ureter. J. T. Bottomley, Boston.
61 Primary (Congenital) Hydronephrosis. C. G. Cumston, Boston.
62 *Recent Developments in Pyelography. W. F. Braasch, Rochester, Minn.
63 *Removal of Carcinoma of the Fundus of the Bladder. F. R. Hagner, Washington, D. C.
64 *Intraperitoneal Cystotomy. C. E. Tennant, Denver, Colo.
65 Treatment of Cystitis by Distentions of the Bladder. H. A. Kelly, Baltimore.
66 *Is the Sac of a Femoral Hernia of Congenital Origin, or Is It Acquired? R. W. Murray, Liverpool, England.
67 *Silver Wire and Linen Thread for the Cure of Hernia. J. Wiener, New York.
68 *A Pneumatic Tourniquet. F. E. Bunts, Cleveland.
69 Control of Hemorrhage by Forceps-Tourniquet in Major Amputations. J. L. Thomas, Cardiff, England.
70 Figures About Fractures and Refractures of the Patella. E. M. Corner, London.

62. An abstract of this paper appears in Society Proceedings, this issue.

63. **Carcinoma of Fundus of Bladder.**—Hagner claims that it is possible, with exercise of proper care, to remove tumors from the fundus and lateral walls of the bladder without the slightest traumatism to the tumor mass by his method. The operation is impracticable for tumors of the bladder base. The following is a description of the operation as employed in one case: The bladder was irrigated, and on account of bleeding, adrenalin 1:10,000 was instilled and allowed to remain five minutes. The bladder was then distended with 350 c.c. of salt solution, and a Nitze cystoscope was introduced. This was held in place by an assistant, while a suprapubic incision down to the bladder wall was made. The prevesical fat was well separated and the tissues well retracted by wide lateral retractors so as to give a good exposure of the bladder wall. The growth was then inspected through the cystoscope, the right hand holding the cystoscope; with the left, a needle was pressed on the fundus of the bladder, and the dimpling caused thereby was readily seen through the cystoscope. The needle was carried first to the left of the growth at a sufficient distance to give a margin of healthy bladder wall, it was then plunged into the bladder, being held in place by an assistant. The same procedure was carried out at the right of the growth and at the lower border. An attempt to place a needle above would have penetrated the parietal peritoneum, as this was involved in the growth. A sharp knife was then carried to the outer side of the three needles placed around the growth, the portion of the bladder wall to be removed being clamped at its cut edge as soon as the incision was started. The bladder wall containing the growth was lifted up by the clamp and held by an assistant. The fluid left in the bladder was removed by a large syringe through the suprapubic wound to prevent its entrance into the peritoneal cavity. The incision in the bladder wall was then carried upward into the peritoneal cavity and a portion of parietal peritoneum covering the growth was removed. The bladder and peritoneal wounds were then closed by two rows of sutures, a suprapubic drain being left in the bladder.

64. **Intraperitoneal Cystotomy.**—Tennant advocates transperitoneal cystotomy in selected cases. He says that more successful results in bladder work may be accomplished, with considerably less mortality and much greater comfort to the patient, by the intraperitoneal route. In two cases, he found that it was possible to perform an intraperitoneal cystotomy in the presence of very marked cystitis. Both patients had a cloudy alkaline urine, with pus, colon bacillus and other pyogenic micro-organisms, but after careful consideration, it seemed best to use the transperitoneal route. Both patients were operated on, the bladder immediately closed, and successful results secured, sparing the patients annoyance and apprehension of a urinary fistula.

66. **Sac of Femoral Hernia.**—Murray holds that clinical experience, operative experience, and also evidence obtained from necropsies and from the pathologic laboratory are strongly in favor of the view that the sac of a femoral hernia is of congenital origin and is not acquired.

67. **Silver Wire in Cure of Hernia.**—Wiener regards chromic catgut as an unreliable suture material, but Pagenstecher linen, he thinks, is an excellent suture material. Silver wire, in some form, is a suitable suture material in many recurrent cases; and at primary operations when the tissues are poorly developed. Immediate recurrence, in uninfected cases, in his opinion, is usually due to chromic gut. There will be fewer recurrences, he declares, if surgeons entirely discard chromic gut sutures.

68. **Pneumatic Tourniquet.**—Bunts has devised an apparatus which is made of rubber and linen and consists virtually of two long rubber bags fastened together along their inner margins, but connected at the middle by an opening through this fastening which permits the air to circulate simultaneously in both tubes when inflated. If it be made of a single rubber bag, the inflation will cause the superimposed turns of the tourniquet to roll off of each other and thus relieve the constriction. With the double tubes this cannot occur, and the tourniquet remains exactly where placed. It is made of much the same material as the familiar obstetrical pad, which is sufficiently elastic, very strong and durable and can be readily sterilized. It has a tapering end which, after the tourniquet is in place, is tucked under the inflatable part and becomes fixed as soon as pressure is applied. From the middle of one of the bags projects a rubber tube with an offshoot and two stop-cocks, which permit, respectively, inflation by means of an attached bulb, and gradual diminution or total abolition of pressure by opening and allowing the escape of the air. If done slowly, undoubtedly venous engorgement would take place, but the inflature may be rapidly accomplished by a few pressures on the bulb, and if still greater precaution against congestion is needed, the limb may be elevated or a Martin badge applied before compressing with the tourniquet. It can be applied uninflated to the limb prior to its preparation for operation and then, when needed, the circulation can be shut off by compression of the bulb without any disarrangement of the preparations about the field of operation. If, for any reason during the operation, it is desired to restore the circulation or to see whether the vessels have been secured, the air may be slowly allowed to escape by the anesthetist or nurse by opening the stop-cock, and controlled instantly by the reinflation of the tourniquet, without having to readjust it.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

November

71 *Obstetrics and Modern Gynecology. A. A. Miller, Syracuse, N. Y.
72 *Present Status of the Colon Tube. H. W. Yates, Detroit.
73 *Diagnosis of the Chronic Surgical Lesions in the Upper Abdomen. C. N. Smith, Toledo, Ohio.
74 *Problems in Uterine Cancer. W. B. Chase, Brooklyn, N. Y.
75 *Statistics of Cancer in the Female. K. I. Sanes, Pittsburg, Pa.
76 *Technic of the Radical Abdominal Operation for Cancer of the Uterus. J. H. Jacobson, Toledo, Ohio.
77 *Diagnosis of Tubal Abortion and Rupture. C. E. Congdon, Buffalo, N. Y.
78 *Results at Lebanon Hospital of Deferred Operations for Extrauterine Pregnancy. R. Waldo, New York.
79 Tumors of the Bladder. J. F. Erdmann and J. F. McCarthy, New York.

80 *Puerperal Wound Intoxication and Wound Infection. H. Schwarz, St. Louis.
81 *Serotherapy and Bacterial Vaccines in the Treatment of Puerperal Septicemia. H. Schwarz, St. Louis.
82 Scarlatina. J. F. Bell, Englewood, N. J.
83 Purpura. T. J. Etterich, Pittsburg, Pa.

71 to 75, 77, 78. Abstracted in THE JOURNAL, Oct. 8, 1910, pp. 1309-1312.

76. **Abdominal Operation for Cancer of the Uterus.**—The author's operation is a combination of Bier's spinal anesthesia with Bumm's modification of the Wertheim technic in which the vaginal vault is left open and early postoperative Roentgen-ray treatment instituted. Spinal anesthesia, he thinks, is especially adapted for this operation.

80, 81. Abstracted in THE JOURNAL, Oct. 15, 1910, p. 1402.

American Journal of Surgery, New York

November

84 Iodin: Its Most Important and Latest Uses. J. L. Wollheim, New York.
85 *Treatment of Lateral Curvature of the Spine. C. R. Keppler, New York.
86 Fractures and Dislocations of the Spinal Column. W. L. Estes, South Bethlehem, Pa.
87 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
88 An Improved Composite Cystoscope. J. F. McCarthy, New York.
89 A Foot and Leg Table, a Hand Table, for Use in Surgical Out-Patient Departments. W. M. Brickner, New York.

85. **Lateral Curvature of the Spine.**—For several years Keppler has been using in these cases a simple apparatus which he constructed. It works on the basis of leverage with the patient lying face downward on a mattress. To a vertical bar two long arms are attached by means of sliding joints; and fastened to these are two smaller bars with the corrective pads. At the free end of each arm is a hook on which the weight hangs. The patient lies in front of the machine with the convexity of the spinal curvature immediately opposite the upright base; if the curvature is a double one the dorsal deviation is placed thus. One arm is fastened very low on the upright, the pad being placed on the rib projection at the point of greatest deformity; thus the arm rises, the weight is high, pressure of the pad is down and outward. The other arm is fastened high on the upright, with the pad placed over the lower opposite deviation; it thus slants downward, the weight is low, the pad presses down and inward. The weights being attached—at first from 5 to 10 pounds each, later up to 25 pounds—the corrective act is exerted, and is continued from five to ten minutes. In single curvature only one pad is used; in round shoulders a smaller pad is placed between the scapulæ, while the shoulders are raised by means of a sand bag placed under the clavicles; and the apparatus can be used actively by placing the pad against the concave side, attaching a light weight and having the patient push up and outward against it intermittently. To be effective, Keppler says the active treatment must be given at least twice or three times a week. The daily use of a few simple general exercises and some suspension apparatus is also desirable. In fact, the home life of the patient must be well systematized, and the hours of school, rest, sleep and play regulated. The time of treatment varies; in simple cases good results may be obtained in about six months with occasional subsequent supervision; in severe and spastic cases no time limit can be set.

Journal of the Arkansas Medical Society, Little Rock

October

90 Uncinariasis. C. W. Stiles, Washington, D. C.
91 Etiology and Pathology of Uncinariasis. W. H. Deaderick, Helena.
92 Diagnosis and Symptomatology of Uncinariasis. A. G. McGill, Little Rock.
93 Treatment of Uncinariasis. W. S. Stewart, Pine Bluff.
94 Complications in Abdominal Surgery. C. S. Holt, Fort Smith.

Journal of the Minnesota Medical Association and the Northwestern Lancet, Minneapolis

November 1

95 *Nephropexy. W. Courtney, Brainerd.
96 Necessity of Institutional Care for the Tuberculous. E. L. Touhy, Duluth.
97 *Treatment of Varicose Ulcers. J. E. Moore, Minneapolis.
98 Digitalis. J. T. Moore, Minneapolis.

95. **Nephropexy.**—Courtney's method is, to some extent, a modification of the Edebohl operation. A transverse incision, from 1 to 1½ inches in length, is made at each pole of the kidney, well over the curvatures, and these are joined, in the form of a capital letter I, by a longitudinal median-line incision on the convex surface of the kidney. The outlined flaps of fibrous capsule are reflected well downward on the lateral surfaces of the kidney, where they remain undetached, and are folded into a cord or ligament and so maintained by a whip-stitch of ten-day catgut. Four Pagenstecher linen or thirty-day catgut sutures are then placed at or near the four ends of the newly constructed cord or ligament. These sutures are inserted through the fibrous capsule, behind the ligament, over which a turn of each suture is made at a distance of about half an inch from the point of first insertion. The two ends of each suture are grasped separately by catch-forceps. The kidney is then partly returned within the wound, and the incised edge of the fatty capsule is brought forward and sutured to the fibrous capsule, below the newly constructed ligament, with fourteen-day catgut. The sutures may be interrupted at intervals of about three-fourths of an inch, and should surround the circumference of the opening in the fatty capsule. The kidney is then completely replaced within the body, and, by means of needles, the two upper linen sutures, previously placed behind and around the ligament, are passed through the muscular and fascial planes only, of the abdominal wall, external to the incision and as near the twelfth rib as may be conveniently possible. The ends of each of these two sutures are again grasped in catch-forceps until the two like sutures below have been similarly placed, when all are tied sufficiently snug to raise and maintain the denuded surface of the kidney in close apposition with the raw surface of the quadratus lumborum muscle. The wound, or incision, is closed in the usual tier-suture manner and without drainage.

97. **Varicose Ulcers.**—The principle of Moore's treatment is mild medication, combined with continuous pressure by means of properly adjusted strips of adhesive plaster. With the average ulcer, all the preparation necessary is a thorough washing with soap and water before applying the plaster. A painful or so-called irritable ulcer should be swabbed very thoroughly with 95 per cent. phenol, repeated several times at intervals of three or four days, before applying the adhesive strips. The phenol should be followed in about two minutes by alcohol, after which a gauze dressing should be applied. This treatment will relieve the pain and sensitiveness in a very few days, so that the pressure can be applied without causing pain. When there is eczema about the ulcer this should be healed by the usual methods before applying the adhesive plaster. In case of annular ulcer, involving the whole circumference of the limb, the only successful treatment is amputation. After washing and shaving the leg it should be held horizontal by placing the heel on the seat of one chair while the patient is seated on another. The ulcer is then covered with dry calomel so that the cavity is filled level with the skin. Beginning at a point about 2 inches below the ulcer, strips of adhesive plaster from an inch to an inch and a half in width should be applied around the limb, so that the strip above overlaps the strip below about a quarter of an inch, like the shingles on a roof. A sufficient number of strips should be applied so that the upper one extends 2 inches above the upper edge of the ulcer. They should be applied firmly, and flat against the leg, so that one edge does not press into the flesh. They should not completely encircle the leg, but should leave a strip of uncovered skin along the back about an inch wide. A roller-bandage should then be applied from the base of the toes to the knee. At first it is necessary to change the dressing every day, for the discharge from the ulcer mixes with the calomel, forming a thick paste which oozes out between the adhesive strips, and unless changed this often irritates the skin, loosens the straps and acquires an offensive odor. In a short time, however, the amount of discharge diminishes, and the strips can be left on for two or three days, the length of time being regulated by the amount of discharge. In a very few days the granulations begin to assume a healthy color, and a blue line of new skin appears around the edge of the ulcer. The progress is usually most gratifying, and after the discharge has diminished so that

the dressing requires changing only every third day, the patient can see the improvement that has taken place between dressings.

Southern Medical Journal, Nashville

October

99 Surgery of Tetanus. G. W. Broome, St. Louis.
100 Address at Opening of Jefferson Medical College, Philadelphia. G. C. Savage, Nashville.
101 *Preparation Required for the Practice of General Surgery. G. W. Green, Chicago.
102 Treatment of Advanced Cases of Appendicitis with Intestinal Paresis. J. N. Lewis, Roanoke, Va.
103 Capsule Cataract Operation. J. P. Crawford, Nashville.
104 Intubation in Desperate Cases. O. H. Wilson, Nashville.
105 Tubal or Extra-Uterine Pregnancy. J. H. Carter, Memphis, Tenn.
106 Methods for the Control of Fever. W. L. Secor, St. Petersburg, Fla.

101. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1134.

California State Journal of Medicine, San Francisco

November

107 Experimental Nephritis. E. C. Dickson, San Francisco.
108 Nephritis of Bacterial Origin. J. J. Hogan, Vallejo.
109 Hematuria; An Initial Symptom of Chronic Nephritis. R. L. Rigdon, San Francisco.
110 Dietetic Treatment of Nephritis. R. Bine, San Francisco.
111 Pellagra. W. A. Clark, San Leandro.
112 History of Rabies in Southern California. S. P. Black and L. M. Powers, Los Angeles.
113 Demonstration of a Dissection Showing an Anomaly of the Arteries of the Leg. F. E. Blaisdell, San Francisco.
114 *Ureterocystostomy. G. B. Somers, San Francisco.

114. **Ureterocystostomy.**—The chief feature of this operation is the deliberate opening of the bladder, for the purpose of affording working space in carrying out the anastomosis. With a liberal median incision, the pelvic cavity is thoroughly exposed. The ureter is liberated down to a point as near as possible to the base of the bladder. It is there cut off, leaving a free length of about 1½ inches. The bladder is opened by a median longitudinal incision, about 2 inches in length. This gives free access to the whole of the interior, with plenty of working space. A point is selected on the surface of the bladder, which the free end of the ureter will easily reach. If there be any difficulty in making the ureter reach the bladder, the latter may be dissected away from the pubes sufficiently to allow approximation. The bladder is punctured at the selected point, and the ureter drawn through. When the broad ligament is present, the puncture is made to pass through this structure at a convenient point. The end of the ureter is split, so as to make an upper and a lower flap, each about 1 centimeter in length. The mucosa of the bladder where these flaps are to be united, is slightly denuded, and then each flap is sewed to the bladder wall by fine chromicized catgut. The operation is completed by closing the bladder and covering the remainder of the ureter as completely as possible with peritoneum. In the after-treatment the bladder is kept empty by catheterizing every two or three hours for several days. A permanent catheter should not be used, as it is almost sure to produce cystitis.

Philippine Journal of Science, Manila

August

115 *Uncinariasis Among White Men in the Philippines. W. P. Chamberlain, U. S. Army.
116 *Prevalence of Intestinal Parasites in Rizal and Cavite Provinces and in Cagayan Valley. R. S. Rissler and Liborio Gomez, Manila.
117 Myosmyia Rosoli as a Malaria-Carrier. W. T. deVogel, Samarang, Java.
118 *Antimalarial Prophylactic Measures and Their Results at the Naval Station, Olongapo, P. I. A. W. Dunbar, U. S. Navy.
119 Malaria in the Philippines, Especially Its Treatment with Arsenophenylglycin. F. B. Bowman, Manila.
120 Contagious Ophthalmia. G. E. Brook, Straits Settlements, Singapore.
121 Present Position of the Leper in View of the Resolutions Passed at the International Conference on Leprosy at Bergen, 1909. A. Perry, Ceylon.
122 Tuberculosis Among Filipinos. W. E. Musgrave and A. G. Sison, Manila.
123 Blood-Pressure in the Tropics. W. E. Musgrave and A. G. Sison, Manila.
124 Tuberculosis in the Philippine Islands. I. W. Brewer, U. S. Army.
125 *Mali-Mali, a Mimic Psychosis in the Philippine Islands. W. E. Musgrave and A. G. Sison, Manila.

115. **Statistical Study of Uncinariasis.**—According to Chamberlain, uncinariasis is found among the Philipinos in probably not over 15 per cent. of the general population, and is mild in type and of small economic importance. The percentage of infection is higher in adult males, reaching 50 or 60 per cent. among the Philipino scouts and Bilibid prisoners. From 65 to 85 per cent. of the southern-bred white recruits for the United States Army are infected with uncinaria, usually mildly, and these infected soldiers have been coming in considerable numbers to the Philippines, thus importing *Uncinaria americana*. The majority of these soldiers, if not reinfected, become free of the worms by natural processes in about five years. Uncinariasis, sufficiently marked to be evident clinically, is very rare among American men in the Philippines. Even a routine stool examination among Americans showed few cases; seventy-one out of 8,000 examinations at the Division Hospital and nineteen out of 800 examinations at the Fort William McKinley Hospital. An exhaustive stool examination among Americans in the Philippines, Chamberlain believes, would probably show a somewhat greater frequency. Of the ninety cases of uncinariasis found at the above hospitals, only eleven were admitted for uncinariasis. Forty-five were admitted for gastro-intestinal troubles, dysentery, diarrhea and sprue being the most frequent causes. In about thirty out of ninety cases (33 per cent.) there is a probability that the infection originated in the United States and was imported into the Philippines. In the remaining sixty cases it is probable that infection occurred in the Philippines, and there is reason to believe the parasites were usually introduced through the mouth with food or water. Chamberlain says that uncinariasis is of sufficient importance among Americans in the Islands to make an occasional careful search for ova desirable.

116. **Intestinal Parasites.**—The result of the work done by Rissler and Gomez is in accord with that of other authors regarding the almost universal infection of the whole population of the Philippines with intestinal parasites. The chief infections in the districts covered by this report are from *Ascaris* and *Trichuris*, and their distribution is rather uniform, although in Santa Isabel the percentage of infection with *Trichuris* fell very low. The distribution of the hookworm varies, Santa Isabel showing the highest percentage ever recorded in the Islands. Males were more affected than females. The percentage of hookworm infection does not appear to be affected by the nature of the soil on which the people live. The distribution of *Amœba* shows still greater variation. In and around Manila the percentage of infection is higher, but in the Cagayan Valley it is rather low. Infection with *Hymenolepis*, while not found in Cavite and Rizal Provinces, is rather frequent in the Cagayan Valley. Children are mainly infected. Tapeworms are also more frequent in Cagayan and Isabela than in Cavite and Rizal. The parasite known as the worm of Cochin-China diarrhea, or *Strongyloides intestinalis*, was not found in Cagayan and Isabela, whereas it was frequently encountered in Cavite and Rizal. Monads were found rather uniformly distributed in the cases, but ciliates were not encountered in the Cagayan Valley.

118. **Antimalarial Prophylactic Measures.**—The value of efficient sanitary measures is well shown in Dunbar's report. A board appointed for the purpose, recommended (1) filling in of the swampy land on the range and further clearing of the ground so that there should be no shelter for the mosquito within at least 200 yards of the range; (2) the erection of thoroughly screened quarters for officers and men. These recommendations were carried out and the quarters completed by the date of the opening of the target season. The buildings are of light construction, elevated about 4 feet from the ground, well ventilated and completely screened. During the first quarter of last year there were 105 admissions to the hospital ship, giving 2,214 sick days, and the station sick quarters were constantly kept filled, and this has been the yearly experience since the range was established. During the elapsed part, over one-half, of the first quarter of the year, there had been eight admissions to the hospital ship for malaria, giving 120 sick days, and there have been only fifty-three patients treated at the sick quarters. The administration of from 4 to 8 grams of quinin daily has been found

necessary. The treatment is, as a rule, continued for three weeks, but not necessarily or usually in the larger doses.

125. **Mali-Mali in the Philippines.**—Musgrave and Sison point out that the peculiar mimic psychosis in the Philippines known by the local name mali-mali is closely related to, but distinct from, the ties. Such somewhat doubtful ties as Giles de la Tourette's disease, jumping tic of Beard, myriachit of Hammond, and the salutatory ties in general, have much in common with the Philippine affection, but in all of these, with the possible exception of latah, there are indications of autospasm which is lacking in the local disease. Ramaneniana, the dancing mania of Ramisiary, St. John's and St. Guy's dance, and perhaps other allied conditions, are more nearly hysterical manifestations; and while they have much in common with mali-mali, they all show evidence of autostimulation, and when once established are capable of prolongation without any outside influence. The authors believe that mali-mali is probably an expression of mental degeneracy similar to that generally accepted for other conditions of the same group. However, its clinical manifestations do not clinically agree with those given for any other similar disease, and for this reason it is classified by them, tentatively at least, as a clinical entity.

Vermont Medical Monthly, Burlington

October 15

126 A Decade in Medicine. W. B. Havens, Chester, Depot, Vt.
127 Diagnosis of Incipient Tuberculosis. W. C. Klotz, New York.
128 Fracture of the Patella. H. G. Stetson, Greenfield, Mass.

Pennsylvania Medical Journal, Athens

October

129 President's Address: Purposes of the Society. T. B. Appel, Lancaster.
130 Essentials of the Surgical Reconstruction of the Human Skeleton. J. B. Roberts, Philadelphia.
131 Simplest Method of Preparing Reliable Catgut. J. D. Singley, Pittsburg.
132 Ex Uno Plura. Diversiform Influenza. W. B. Konkle, Montoursville.
133 The County Society. W. T. Williams, Mount Carmel.
134 The County Society and the Unit. L. L. Doane, Butler.
135 What the General Practitioner Can Do in the Prophylaxis of Insanity. W. W. Richardson, Norristown.

American Medicine, Burlington, Vt.

October

136 The Personal or Business Side of a Doctor's Life. J. MacDonald, Jr., New York.
137 A Fool's Paradise—Snap Diagnoses. L. Kerr, Brooklyn, N. Y.
138 Treatment of Menorrhagia in Young Women. G. H. Mallett, New York.
139 Gastric Juice from the Living Pig and Its Therapeutic Application. M. Hepp, Paris, France.
140 Dermolds. J. H. Long, Brooklyn, N. Y.
141 Treatment of Typhoid. C. J. Strong, New York.
142 Acromegaly. M. Packard, New York.

Atlanta Journal-Record of Medicine, Georgia

October

143 Diagnostic Points of Mental Diseases and Why the Commitment Proceedings of the Insane of Georgia Should be Entirely Revised. J. C. King, Atlanta.
144 Ehrlich's "606" in Syphilis. E. G. Ballenger, Atlanta.
145 Pellagra. T. E. Taylor, Tuskegee, Ala.
146 Id. A. D. McLain, Salem, Ala.
147 Christian Science the "Religio-Medical Masquerade." H. R. Slack, LaGrange, Ga.
148 Intestinal Excessive Activity. G. M. Saleba, Roanoke, Ala.
149 Pulmonary Tuberculosis Treated by Artificial Pneumothorax. M. E. Lapham, Highlands, N. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 29

1 *Diaphragmatic Hernias. A. Keith.
2 *Typhoid Perforations and Perforations of the Gall-Bladder. G. E. Armstrong.
3 *Bacillus Coli* Infections, Especially Their Recognition and Comparative Frequency. J. S. Dick.
4 *Diet of a Patient Before Operations Under General Anesthesia. R. W. Cullum.
5 Ophthalmic School Clinics in the Country. R. B. Hird.
6 Submucous Resection of the Nasal Septum. T. J. Faulder.
7 Three Bad Prognostic Signs in Eclampsia. W. F. Shaw.
8 The Future of Ocular Therapeutics. G. A. Berry.
9 Use of Carbon Dioxid Snow in Eye Work. N. B. Harman and E. R. Morton.
10 Conditions Which May Account for the Greater Prevalence of Cataract in India. L. J. Pisani.
11 Diagnostic Values of Ophthalmoplegia, Partial and Total. J. S. R. Russell.
12 Education of High Myopes. N. B. Harman.
13 Operative Treatment of High Myopia. A. H. Thompson.
14 Extended Use of Buccal Mucous Membrane in Enlarging Certain Forms of Contracted Socket. A. H. Benson.
15 The More Chronic Forms of Anterior Uveitis. W. T. H. Spicer and S. Mayou.
16 Drainage After Cataract Operations. G. H. Fink.
17 School Clinics. N. B. Harman.
18 Factors That Make for an Efficient Circulation. E. A. Schäfer.
19 Food Requirements for Sustenance and Work. C. H. Melville.
20 Demonstration on Tonometric Determination of Dissolved Gases. A. Krogh.
21 Forces Governing the Gas Exchange in the Lungs. A. Krogh.
22 *Excretion of Creatin in Diabetes Mellitus. M. H. Taylor.

1. **Diaphragmatic Hernia.**—Hernias through the diaphragm, Keith says, fall into two groups, the congenital and the acquired, the former being to the latter in the present series of thirty-four cases as 26:8. The congenital hernias are chiefly those which occur at the unclosed pleuro-peritoneal passages (twenty-one cases), the others being formed (five cases) by developmental extrusions of the abdominal viscera, chiefly liver, through the septum transversum. In a certain proportion of congenital cases it appears possible to adopt surgical measures for the cure of the condition.

2. **Typhoid Perforations.**—There were treated in the Montreal General Hospital from 1897 to May, 1910, 2,051 cases of typhoid. During this period there occurred ninety-three cases of perforation. In this series, then, perforation occurred in 4.53 per cent. of the cases. In addition, Armstrong operated on three patients with typhoid perforation in another hospital and on one patient in a private house; of these four patients, three recovered. There are then, ninety-seven perforations, of which seventy-eight were operated on, and twenty-four, or 30.76 per cent. recovered. During the year 1909, there were sixteen perforations; nine were operated on, and nine, or 56.25 per cent. of the patients recovered. The figures for the year 1909 and four months of 1910, or up to May last, are the best of all. During this period there were twenty-two perforations, nineteen of which were operated on, with nine, or 47.36 per cent., recoveries. In this series of twenty-two perforations two very promising cases were lost, apparently by delay in obtaining consent to operation after the perforation was diagnosed. The increased percentage of recoveries, according to Armstrong, is, in part, due to the character of the epidemic, but chiefly to earlier diagnosis and earlier closure of the opening. The earlier diagnosis has been due largely to the development of the idea among the resident hospital staff that it is a serious reflection on their skill and professional attainments to fail to recognize a typhoid perforation, no matter how slow and chronic may be its appearance. The final step toward lessening the mortality rate in typhoid perforation is the recognition by every one that it is a serious and humiliating oversight to fail to recognize a perforation when it occurs. An analysis of the cases show that perforation is more common in the severe forms of typhoid. Fifty of the perforations occurred in cases described as severe forms of typhoid. Fifty of the perforations occurred in cases described as severe, twenty in moderately severe cases, and one in a mild case. Six perforations occurred in ambulatory cases, and in one of these it seemed highly probable that perforation had occurred sixty hours before admission to the hospital. Strange to say, this man recovered. Of the ninety-seven patients in whom perforation occurred, only seventy-eight were submitted to operation. Nineteen patients were not operated on for various reasons, the chief being failure to obtain consent from the patient, parents or guardians, the desperate condition of the patient, and non-recognition of the lesion. Twenty-six cases of perforation were associated with hemorrhage. Among these are not included instances of small blood-stained stools but only those cases in which the quantity of blood lost amounted to several ounces. As a class they are unfavorable. Three of these patients, however, recovered. In six cases, or 7.7 per cent., more than one perforation was found at the time of operation. The perforations were generally not far removed from each other. In

four cases a second operation was undertaken for second perforation; with one recovery. In two cases, recovery would have followed the second operation had not a third perforation occurred—in one case seven days after the second operation and in the other twenty-one days after the second operation. In one case two operations were performed. At the first operation one perforation was closed. At the second operation two perforations were closed. The child finally died, and at the necropsy the lower two feet of the ileum were necrotic, twelve perforations being counted.

It has been Armstrong's practice to close the opening in the simplest way, that is, by one or two sutures through all coats, and a row of Lembert sutures placed transversely at right angles to the long axis of the bowel. He then infolds in a similar manner with a row of Lembert sutures all the ulcers found to have a thin, suspicious, necrotic-looking base. Two alternatives have been carried out in a few cases. In two the suspicious portion of the gut was resected with end-to-end anastomosis. Both patients died. In two the suspicious looking gut was delivered, and cared for outside. The gut was wrapped in gauze, and allowed to rest on the abdominal wall. These two patients, after doing well for a time, eventually succumbed, one of them from pneumonia. Armstrong says that resection should probably be reserved for special cases in which the danger of further perforations over a considerable section of intestines seems imminent, and the patient's general condition warrants undertaking an operation that requires a little more time and a little more shock.

4. **Diet Before Operation.**—Collum is more liberal in this respect than is customary. Thus, supposing an operation (in a healthy subject) is to be performed at 9 o'clock in the morning, he says the patient should be left asleep, unless he awakes of his own accord, until at any rate 7:30, when he may be given his enema. Then, if he be accustomed to breakfast about 8 o'clock, he may have a thin slice of bread-and-butter, or a small piece of toast, with as much tea to drink as he desires. He will then be able to settle down much more contentedly to his newspaper until the surgeon arrives. If the operation be at 10 or 11 o'clock, he may have a similar breakfast, but with two thin slices of bread-and-butter, if he wishes, or a somewhat larger piece of toast, provided his usual breakfast hour be 8 o'clock. If, however, he be accustomed to breakfast at 9, the amount of solid food should be as in the first case, unless the excitement of the approaching ordeal has caused him to awake earlier than usual, under which circumstances he may also have his small meal a little earlier. If the operation be arranged for 12 or 1 o'clock, he may be given an ordinary light breakfast at the usual time; meat, however, being avoided. A glass of water might in this case, be taken with advantage about 11 o'clock. For an operation at 2 or 3 o'clock, the ordinary breakfast should be taken at the usual time, and a cup of hot clear soup or beef-tea at 1 o'clock, together with a little water to drink. This same arrangement is suitable for a patient to be operated on at 4 o'clock, except that in this instance a little toast, bread, or biscuit may be given with the soup. If 5 o'clock be the appointed hour, the breakfast and lunch should remain the same, but in addition a cup of tea may be taken at, or a little before, 4 o'clock. If the hour is 6 o'clock, the patient may have his ordinary breakfast, and then a light luncheon consisting of fish or poultry at about 1 o'clock, followed by tea with bread-and-butter at 4 o'clock. Finally, a patient who is to be operated on at 7 o'clock may partake of his usual breakfast, lunch and tea, simply avoiding currant cake or anything rich at tea-time. No fruit of any kind should ever be taken on the day of the operation.

22. **Excretion of Creatin in Diabetes Mellitus.**—In Taylor's present series of cases—sixteen in number—it was found that the output of total nitrogen in diabetes was not always greatly increased even with a comparatively high intake of protein; indeed, the nitrogen was frequently abnormally low. There seemed to be some connection between the carbohydrate metabolism and the creatin-creatinin metabolism. As regards creatinin, it was found that the output was not increased to any considerable extent even when the patient was on a highly nitrogenous diet. Creatin, on the other hand, a substance never found in the normal urine if the diet be free from creatin and creatinin, was always found. It was present even when the patient was kept on a creatin-creatinin free diet. Some further work was carried out in conjunction with Dr. E. P. Cathcart on the creatin excretion after the induction of glycosuria by means of injections of phloridzin. Here it was found that if the animal were allowed only a small quantity of carbohydrate in the diet creatin appeared in the urine during the time sugar was being excreted. It disappeared as soon as the sugar excretion ceased. On the other hand, if the animal were given very large amounts of carbohydrate, so that even during the period of glycosuria there was still an abundance of sugar in the body, then no excretion of creatin accompanied the output of sugar in the urine. It was further found that fats, even in very large amounts, could not replace the carbohydrate. A liberal supply of fat combined with an amount of carbohydrate, sufficient to prevent the appearance of creatin in the urine under normal conditions, did not check the excretion of creatin when glycosuria was induced.

Lancet, London

October 19

23 The Chief Aim of Medicine. S. Delépine.
24 Hematemesis. D. Duckworth.
25 Acute Pancreatitis; Operation; Recovery. A. E. Barker.
26 *Phagocytosis of Erythrocytes by Endothelial Cells. W. O. Meek.
27 Delayed Chloroform Poisoning. E. D. Telford.
28 Poisoning by Aconite. W. Edgecomb.
29 Method of Removing Nasopharyngeal Fibromata. T. Guthrie.
30 *Treatment of Ascites by Drainage Into the Subcutaneous Tissues of the Abdomen. P. Paterson.
31 Exophoria Not Caused by Refractive Errors. R. A. Morrell.
32 Malignant Pustule. L. A. Parry.
33 Treatment of Syphilis with Ehrlich's "606" (Dioxydiamidoarsenobenzol). W. Wechselman.

26. **Phagocytosis of Erythrocytes by Endothelial Cells.**—Meek found that preparations of endothelial cells are especially suitable for observations on hemophagocytosis. Human blood serum, whether from "natural" or "immune" sources, which cause agglutination of other red-blood corpuscles, can be shown to also bring about phagocytosis of these erythrocytes by endothelial cells. The amount of "hemo-opsonin" in such sera is closely related to the amount of "hem-agglutinin" which they contain.

30. **Ascites and Subcutaneous Drainage.**—Paterson employs a glass drain of such a shape that it will not slip into the peritoneal cavity. These drains or buttons are of various sizes, so that a suitable one can be chosen for each case. The buttons consist of a perforated glass cylinder expanded into a flange at each end. The largest size measures 1 inch across the flanges, and has a canal 1/12-inch wide. The flange itself has a thickness of about 1/16 inch. The diameter of the flanges and the width of the canal may be the same in the various sizes; but it is essential that the cylindrical part should vary in length, as this part has to pass through the thickness of the abdominal muscles, and as this thickness varies in different individuals so also must the length of this part of the button. Care must be taken to have all the edges and corners rounded and that every part is perfectly smooth. The operation is a simple one. An incision, about 3 inches long, is made in the middle line below the umbilicus, and the peritoneal cavity is opened in the line of the incision. If the abdomen has not been previously tapped the greater part of the ascitic fluid escapes at this stage. The omentum is then drawn down and removed at a level well above the point where the drain is to be placed, because, if left, it very soon passes into the opening in the drain and completely blocks it. The subcutaneous tissues are now dissected outward, on one side, till the semilunar line is exposed, and through this an opening is made into the peritoneal cavity. This opening should just be large enough to permit the button being placed in position. The drain may be passed either from the peritoneal or subcutaneous side, but if from the latter care must be taken to avoid stripping the peritoneum from the edge of the opening when inserting the tube, or the flange may come to lie between the peri-

toneum and the subperitoneal tissues. By slipping one flange edgeway through the opening there is no difficulty in placing the button in position. When a suitable size has been chosen one flange should lie flat on the peritoneum and one on the abdominal aponeurosis, without any pressure being exercised on the intervening tissues. If too long, the apparatus would project into the peritoneal cavity, and the intestines might get nipped between the flange and abdominal wall; while if too short, the button would tend to cut its way through the thickness of the tissues in its grasp. If the opening for the drain has been made too large and the edges do not grip the button firmly, a purse-string suture should be placed close to the button on the aponeurotic side, so that when tightened the soft tissues are brought into close contact with the groove in the drain. The subcutaneous tissues are next closely stitched by a continuous suture to the anterior layer of the sheath of the rectus. This suture is placed about 1 inch from the margin of the primary incision and parallel with it. By this means the superficial end of the drain is shut off in a compartment of its own, and the fluid, as it escapes from the peritoneal cavity, is prevented from throwing too much strain on the suture closing the skin incision. The primary wound is sutured in the usual manner, the skin being closely stitched by a buttonhole suture to prevent any leakage. A collodion dressing applied to the wound gives additional support. This dressing is reapplied as often as required till the skin wound is firmly healed. For one or two days afterward the patients usually complain of pain in the neighborhood of the button, but when this has passed off no further discomfort is experienced. If the quantity of peritoneal exudate be considerable, a fluctuant swelling, almost the size of the fist, forms within twenty-four hours in the subcutaneous tissues around the drain; but as absorption becomes established in the superficial vessels the swelling diminishes, till only a slight edema remains to show that fluid is still escaping. When the exudate is small in quantity the swelling does not pass beyond the state of edema. Paterson has performed this operation in several cases of ascites secondary to malignant disease, and also in cases of cirrhosis of the liver, with marked diminution of the abdominal distention, and to the great relief of the patients.

Australian Medical Journal, Melbourne

September

34 Flatulence and Its Treatment. J. Jamieson.
35 Quinsy. T. K. Hamilton.
36 Importance of the Upper Respiratory Tract in Everyday Practice. W. E. Hughes.
37 Headaches Caused by Eye-Strain. P. Webster.
38 Ophthalmology in Relation to General Medicine. E. L. Gault.
39 Squint. E. R. Sawrey.
40 Acute Septic Generalising Peritonitis; Operation; Recovery. R. B. Duncan and W. R. Groves.
41 Third Series of Fifty Consecutive Cellotomies. A. J. Nyulasy.

Quarterly Journal of Medicine, London

October

42 *The Pulse Immediately Preceding the Epileptic Attack. A. G. Gibson, T. S. Good and R. G. Penny.
43 *Influenzal Septicemia, with a Short Review of the Present Status of *Bacillus Influenzæ*. H. Thursfield.
44 *Hereditary Hemophilia. T. Addis.
45 Hematoporphyrinuria Not Due to Sulphonal. T. K. Monro.
46 *Two Cases of Acute Endocarditis. J. Cowan, A. M. Kennedy, A. R. Paterson and J. H. Teacher.
47 *Tuberous (Tuberose) Sclerosis. J. S. Fowler and W. E. C. Dickson.
48 *Coupled Rhythms of the Heart. J. Cowan and W. T. Ritchie.
49 Outlook of Sufferers from Exophthalmic Goiter. W. H. White.

42. Pulse Preceding Epileptic Attack.—In the course of a research whose object was to determine in what way, if any, the action of the circulatory organs in epileptics differs from that in normal persons, the authors succeeded in obtaining satisfactory tracings immediately preceding and up to the fit in five epileptic major attacks. The tracings were taken with an Erlanger sphygmomanometer, using an external pressure that was usually below the minimum blood-pressure. The experiments consisted in taking long tracings at varying external pressures, together with a record of the respiration. The patient during the time lay comfortably on a bed. In all the records the respirations are markedly irregular; sometimes an occasional sighing respiration is seen, now and again a suspicion of Cheyne-Stokes respiration or slow tonic waves superimposed on the general respiratory undulations. In the opinion of the observers these variations bear no intimate relation to the fit, though they may be an expression of the conditions in the epileptic brain. They are seen in many epileptics quite apart from the fits or the "fitty" state, they vary much in the same patient from day to day, and they are often to be found in patients without epilepsy, especially in neurasthenics. In the first fit observed, the external pressure in the armlet was 78 mm. Toward the middle of the tracing was a deep respiration followed by a short character. The blood-pressure record is even except for the slight depression that occurs with the deep respiration. Immediately preceding the irregular movements of the lever which indicate the stage of tonic spasm, the upper and lower limits of the pulse oscillate somewhat, but there is no more than a slight lessening of the amplitude of pulsation, and even in the imperfect record of the pulsations when the tonic spasm has begun there are indications that cardiac action is uninterrupted. In the second case there was considerable irregularity in the respiratory tracing. The blood-pressure tracing, though taken at the external pressure of 100 mm., has a small amplitude; it shows well the respiratory undulation of pressure that some persons show more than others. In the second half of the tracings the amplitude lessens much and again increases toward the place where the irregularities which mark the onset of the fit begin. Pulse-beats continue right up to the tonic spasm with regularity and only a trivial alteration in general level. The onset of the fit was gradual and allowed of a more detailed study. The records put forward in this paper are said to prove that there is no alteration of the pulse sufficiently definite to effect the amplitude of the wave up to the point when clonic convulsions prevent its being properly recorded, and in more than one record the fit has been noticed to be in progress before the record was interfered with. As regards the blood-pressure, the authors assert that in none of the records does such a lowering of general blood-pressure take place as to suggest that cerebral anemia from a general cause could have produced the convulsion, for in conditions in which lowered blood-pressure produces a general spasm, as for instance in Stokes-Adams disease, the convulsions occur after a time interval of several seconds after the pulse has stopped. In more than one of the tracings the patient was noticed to be in the fit and unconscious while little recognizable change was evident in the pulse or blood-pressure.

43. Influenzal Septicemia.—The two cases of influenzal septicemia which Thursfield records, will, he says, when considered in the light of recent work on so-called influenzal meningitis, lead inevitably to the conclusion that what has been hitherto regarded as a specific organism is, in reality, only one of a group, the members of which have similar, if not identical, morphologic and cultural characteristics, but different pathogenic properties. In certain cases of endocarditis and septicemia, an organism identical in all respects with *B. influenzæ* can be isolated from the blood, and is in all probability the cause of the illness. Furthermore, organisms identical in all respects with *B. influenzæ* are found in a number of patients who die of the acute specific fevers, especially in the bronchopneumonic areas. Thursfield also believes that Bordet's bacillus, an organism identical in shape and size with *B. influenzæ*, but capable of differentiation in culture, is the probable cause of pertussis, and that a bacillus identical with *B. influenzæ*, both in morphologic and cultural characteristics, but capable of differentiation by a study of its pathogenic effects on animals, is the cause of a septicemic form of cerebrospinal meningitis. Again, an organism identical in all respects, morphologic, cultural, and pathogenic, with *B. influenzæ* is a cause, he thinks, of suppuration in the middle ear and in the sinuses of the nose.

44. Hereditary Hemophilia.—Twelve patients were examined by Addis. They were descended from six different hemophilic stocks in Scotland, England and Germany. In none of these families was there any known instance of a departure from

the characteristic type of transmission, i. e., through the females to the males. His results showed conclusively that there is a delay in the coagulation of hemophilic blood, a delay which in some cases is very pronounced and which far exceeds any retardation of coagulation observed in other diseases. Clinically, the cases fall into three groups. The first is that in which the patients were scarcely ever free, for any length of time, from some sign or other of the disease, even in the absence of any traumatic accident greater than those inseparable from ordinary life. The second group is that in which trivial accidents did not lead to observable hemorrhage. In the third group a still greater degree of injury was required to lead to any appreciable amount of hemorrhage. The only practical difference between the patients of this group and ordinary individuals was that on the occurrence of such a wound or injury as would always produce an appreciable amount of bleeding in any one, the bleeding in them persisted for a longer time. The degree of the defect in coagulation corresponded with the degree of the severity of the clinical symptoms. The coagulation of blood flowing from a wound Addis says is induced by thrombokinase added to it from the tissues, and the rapidity of coagulation varies directly with the amount of this thrombokinase. Much larger quantities of thrombokinase are required to produce rapid clotting in hemophilic than in normal blood. In a wound in a hemophilic, coagulation may therefore only occur in those parts where the concentration of thrombokinase is highest, i. e. on the sides of the wound. But this clot prevents the addition of further quantities of thrombokinase from the tissues, and when the amount of thrombin liberated from the primary clot is insufficient to lead to the complete coagulation of the blood in the center of the wound, bleeding may continue indefinitely. Hemorrhage, Addis claims, is no more easily induced in a hemophilic than in a normal person. The distinction is not in the occurrence but in the amount of bleeding.

46. **Endocarditis.**—Microscopic examination of the *a-v.* node and bundle in two cases of acute endocarditis revealed well-marked inflammatory lesions in the parts. In one case, in which the *a-c* interval in the jugular curve was prolonged, the lesions implicated the bundle; in the other, where the *a-c* interval was very short, the node alone was affected.

47. **Tuberous Sclerosis.**—The essential points in the case reported by Fowler and Dickson are: A female infant developed in an apparently normal fashion for a year; then had "fits" lasting for several hours, thereafter remained in a semiconscious condition for four weeks, dying of an intercurrent empyema. During the whole of her stay in the hospital her appearance suggested cerebral mischief, but having departed from the diagnosis of meningitis the authors did not know what was the matter. The lumbar fluid was perfectly clear when first withdrawn, but, as it cooled, became opalescent from a precipitation in it of minute shreds of fibrin about 0.5 mm. long. It was equally unlike the coagulum which often forms in the cerebrospinal fluid from a case of tuberculous meningitis, and the turbidity produced by pus. The brain was found to be slightly increased in size, and scattered over the surface of the cerebrum there were numerous nodules, varying from about the size of a pea to that of a small walnut, about a dozen or more being embedded in the surface of each hemisphere. These nodules were extremely firm, and their position could be determined most easily by running the fingers over the surface, the sudden transition from ordinary soft brain tissue to dense resistant nodules of almost stony hardness being very striking. In color they were pearly white. The pia-arachnoid, which was thin and comparatively non-vascular, was not adherent over them, stripping easily from their surface. The general contour of the convolutions was not disturbed by their presence; the affected convolutions were slightly thicker or broader than normal, and projected to a very slight but appreciable degree above the general level of the cerebral surface. Some of the nodules showed a moderate degree of umbilication, and other irregularities, which gave them a finely nodulated or granular appearance, while others, again, presented a perfectly smooth surface. On section, the nodules were situated mostly in the grey matter, but the larger of them also projected well into the subjacent white matter, which they closely resembled in color. These appearances suggested that the condition was a replacement or diffuse infiltration of the affected areas by some sclerotic process, rather than anything of the nature of syphilitic gummata or tuberculous nodules. No nodules were found in the cerebellum, pons, medulla, or spinal cord, all of which, to the naked eye at all events, appeared normal. On making sections of the brain, numerous small nodules, about the size of hemp-seeds, were found projecting into the lateral ventricles. These were hard and firm like the larger cortical nodules, and were not connected with the choroids.

48. **Coupled Rhythms of the Heart.**—In all the cases of this series presenting a coupled rhythm there have been signs of mitral regurgitation or evidence of cardiac failure. The authors have never observed a coupled rhythm in an individual who did not manifest some evidence of cardiac weakness. The cases in which the coupled rhythm was long maintained were cases of pronounced heart failure; but in others, presenting a coupled rhythm for shorter periods, the degree of heart failure was almost as severe. With the exception of one case, in which the ventricular rate was 92.3 per minute, and cases of auriculo-ventricular heart-block, the ventricular rate was of moderate frequency. Some of the patients were taking digitalis, others were not. It is claimed that coupled rhythms of the heart may occur from various causes. They are often due to a regularly recurring extrasystole, which is most frequently of ventricular origin. Synchronous contraction of auricle and ventricle, and an undue prolongation of diastole necessarily produce an increase of the intracardiac pressures, and are often followed by a premature systole. It is suggested that, whenever an enfeebled heart is unduly irritable in an abnormal site, any excessive rise of intracardiac pressure may induce a regularly recurring premature systole which originates in the irritable area. The coupled rhythm so often noticed in cases of "perpetual arrhythmia" under the influence of substances of the digitalis series, is probably produced by a mechanism similar to that of the coupled rhythm in which an extrasystole recurs after each physiologic beat.

Medical Press and Circular, London

October 26

50 Respiration in Health and Disease. J. F. H. Daly.
51 The Appendix in Middle and Later Life. E. M. Corner.
52 Rheumatic Inflammation of the Serous Membranes. E. Mosler.
53 Symptoms and Treatment of Duodenal Ulcer. R. J. M. Buchanan.

Clinical Journal, London

October 26

54 Carcinoma of the Stomach. J. Sherren.
55 Inguinal Hernia in Children. O. L. Addison.
56 Demonstration of Pathologic Specimens. E. H. Shaw.

Archives des Maladies de l'App. Digestif, Paris

September, IV, No. 9, pp. 497-540

57 *Action of Alkaline-Saline Mineral Waters on the Gastric Secretion. A. Théohari and A. Babès.
58 *Hemorrhagic Infarct of the Mesentery and Intestine in Typhoid Fever. E. Chabrol.

57. **Action of Mineral Waters on the Gastric Secretion.**—This article reports the results of experimental research on dogs with a Pawlow fistula. The gastric secretion is notably influenced by different mineral waters, the various elements being influenced in different ways. The water of one of the springs tested contained 9.7 gm. of sodium chlorid and 9.7 gm. of sodium bicarbonate and this water invariably checked the gastric secretion. Water from another spring with 13.2 gm. of the chlorid and only 6.9 gm. of the bicarbonate stimulated the secretion, increasing it by 107 per cent. in some of the tests. The average increase was from 40 to 83 per cent. The free hydrochloric acid increased from 26 to 38 per cent. but the proportion of pepsin was reduced.

58. **Typhoid Infarct in the Mesentery and Intestine.**—Chabrol gives an illustrated description of the findings in the case reported and the clinical picture presented. Should the condition demand immediate operation, examination of the blood,

showing the absence of leukocytosis and hyperfibrinosis, will exclude peritonitis from perforation. Melena is common in both infarct and intestinal hemorrhage. He reviews the literature on the subject, saying that the lesion is generally in the small intestine, especially the jejunum, and that there may be superposed infection.

Lyon Médical, Lyons

October 9, CXV, No. 41, pp. 589-628

59 *Erysipelas and Peritonitis. M. Vallas.
60 *Temporary Tracheotomy for Foreign Bodies in the Trachea or Bronchi. Collet.
61 Suppurative Thyroiditis During Whooping-Cough. Collet.

59. **Erysipelas and Peritonitis.**—Vallas' first patient was a healthy girl of 16, tending a woman with a severe erysipelas of the face. The young girl was suddenly taken with serious peritonitis, succumbing on the fifth day. Necropsy revealed an acute streptococcus seropurulent peritonitis but no sign of perforation; the genital organs were normal. In another case a woman of 45 developed symptoms suggesting acute peritonitis but the cecum and appendix were healthy and the focus was found in the peritoneum and the lower part of the ileum. Four days after the mother's laparotomy in the hospital, her child at home, 4 years old, developed erysipelas of the face. In Bonnet's case, an infant died with acute purulent peritonitis but all the abdominal viscera were found healthy. The second day after the child's death, the mother developed erysipelas of the face. These cases indicate that erysipelas may be contagious during the prodromal stage and that it may induce an isolated peritonitis, and that both the erysipelas and the peritonitis may have been drawn from the same source.

60. **Temporary Tracheotomy for Foreign Bodies in the Respiratory Tract.**—Collet advises a simple technic which he has found very useful. As soon as the trachea has been opened and the cannula introduced, he sutures on each side the lips of the wound in the trachea to the lips of the skin wound. This provides a large opening which can be made to gape still wider by traction on the threads. It provides an ample outlet for the foreign body, while it permits thorough inspection of the lower part of the trachea. In one case a cherry stone was coughed up several hours after this opening had been made; the cannula had been introduced and removed a number of times in the interim. In the case of one infant the head was lowered and the foreign body, a piece of bone, was readily removed. No special instruments are required as the bifurcation can be readily inspected as soon as the cannula is withdrawn. Collet's experience shows further the remarkable ease with which a foreign body moves around from one side to the other; bronchoscopy may show it on the right side at one time and on the left at the next. Another advantage of this technic is that it permits ample intake of air, even without the cannula; it might be found useful also, he thinks, in membranous croup.

Presse Médicale, Paris

October 22, XVIII, No. 85, pp. 785-800

62 Eosinophils in Sputum of Asthmatics. (L'éosinophilie du crachat des asthmatiques.) F. Bezançon and S. I. de Jong.
63 Physiologic Bases of Medical Electricity. (Electricité et atrophie musculaires. La modalité optima.) A. Zimmern and P. Cottenot.

October 26, No. 86, pp. 801-808

64 *The Lung in Heart Disease in Children. (Le poumon dans les cardiopathies de l'enfance.) V. Hutinel.

October 29, No. 87, pp. 809-816

65 Metastasis in the Dorsolumbar Vertebræ of Latent Cancer in the Thyroid. A. Mignon and G. Bellot.

64. **The Lung in Heart Disease in Children.**—Hutinel comments on the difference between signs in the lungs and pleura in heart disease in children and in adults. There seems to be a closer connection in children between the pericardium and the pleura, he states, so that a process in either is liable to involve the other more readily. The coexistence of double pleurisy with endocarditis and pericarditis, for example, is so characteristic that it sometimes is a clue to the rheumatic nature of the heart trouble when tuberculosis might otherwise be suspected. In one such case a youth of 16 grew pale and emaciated and finally was forced to keep to his bed. There was a history of tuberculous peritonitis in early childhood from which he had apparently entirely recovered. The discovery of right pleurisy led the physician to diagnose tuberculosis as the cause of the boy's illness, but Hutinel, who was called in consultation, found the pleurisy bilateral, a systolic murmur at the apex and other signs indicating cardiac involvement; inquiry brought out that there were certain vague pains in the knees. On these bases he excluded tuberculosis and the complete recovery, except for a slight heart trouble, has confirmed his conclusion. Extension of a pleural process to the pericardium is also common; the pleura and lungs should be closely supervised in all cases of heart affections in the young and the heart region explored and auscultated in cases of pleurisy, especially on the left side. Suppurative pericarditis may compress the lung and pleura and induce symptoms suggesting purulent pleurisy, but the attenuation or disappearance of these signs when the patient is placed in the knee-chest position, he declares, aids in differentiating. The smaller the child the narrower the chest, and the more chance for compression of the lung with a pericarditic process. When a child has severe heart disease be cautious in affirming the existence of tuberculosis no matter how extensive the râles. Even a positive response to the cutaneous tuberculin tests may indicate merely some minute tuberculous lesion elsewhere; a negative response is more instructive. As children do not expectorate, as a rule, the evolution of the affection is often the only clue to its real nature. He cites a number of instances of the various types, including two cases in which extreme hypertrophy of the heart caused phenomena suggesting pleurisy on the right or left side but necropsy revealed merely the compression by the enlarged heart. In nearly all the cases cited the condition had been erroneously diagnosed. As the heart is the causal factor in the syndromes, treatment should be directed in this line. When the heart is much dilated, the pulmonary veins empty themselves only imperfectly, the innervation suffers, and a superposed accidental infection entails serious functional disturbances. Restoration of the heart balance by appropriate measures, however, corrects the other disturbances.

Revue de Médecine, Paris

October, XXX, No. 10, pp. 785-856

66 *Venous Asystole with Hypertrophy of the Left Heart and Stenosis of the Right Ventricle. S. Bernheim.
67 *Infantilism as Result of Malarial Infection. H. de Brun.

66. **Venous Asystole with Hypertrophy of the Left Heart and Stenosis of the Right Ventricle.**—Bernheim gives the details of ten cases, all in adults between 25 and 64 years old, in which the left ventricle was much dilated with stenosis of the right ventricle. The lesion was a relic of aortic endocarditis in one case, in two it was due to an aortic valvular lesion, in three to atheroma of the aorta and in four to arteriosclerosis; in one case it was accompanied by interstitial and in another by tuberculous nephritis. In one case the patent Botallo's foramen was responsible for the dilatation of the ventricle; in six cases there was concomitant hypertrophy. This material, he states, shows the frequency of venous asystole with hypertrophy of the heart without degeneration of the muscle. It is the consequence of insufficiency of the right heart from stenosis, and this stenosis is produced by hypertrophy of the intraventricular septum which protrudes as a convex dome into the right cavity. He gives an illustration of the typical pathologic anatomic findings which were alike in all these cases. His clinical experience is still wider. The chief clinical sign of the mildest form of the condition is slight venous congestion with cyanosis of the face and enlargement of the jugular veins. The next stage is a more pronounced venous stasis with enlargement of the liver, the kidneys being of the cardiac type, with edema, but the lungs and respiration are still comparatively normal. In the third stage both the greater and lesser circulation show marked stasis and there is complete asystolia. The condition is frequently erroneously diagnosed, he asserts, as pulmonary emphysema with dilatation of the right heart; there may be actually a little

concomitant emphysema or complementary congestion of the lower part of the lung. Differentiation is most difficult when the excentric dilatation is mainly at the expense of the right ventricle, the vertical diameter of the heart not being notably enlarged. If the apparent hypertrophy of the left ventricle induces stasis only in the greater circulation, the thorax retaining its normal respiration and resonance, the trouble is sure to be stenosis rather than dilatation of the right ventricle.

67. **Malarial Infantilism.**—De Brun writes from Beyrouth reporting forty cases of children or youths of pronounced infantile type, weak and mentally backward. All had had chronic malaria since early childhood and part of the disturbances were evidently the result of the action of the malaria on the thyroid, suprarenals, or hypophysis. The small size, the absence of virility and the infantile genitals suggest that thyroid treatment might prove useful in such cases, and he will later report experiences in this line.

Semaine Médicale, Paris

October 26, XXX, No. 43, pp. 505-516

68 *Abortion. R. De Bovis.

68. **Abortion.**—De Bovis comments on the rising tide of abortions; the number of abortions requiring treatment in the public hospitals of Paris is said to have tripled during the last few years; Treub estimates the criminal abortions as 10 per cent. of all observed in Amsterdam and others there estimate the proportion up to 33 per cent.; at Utrecht, nearly 14 per cent.; at Groningen, 24 per cent., and de Bovis cites several American authorities and others to show the increasing importance of this subject. He warns against making a local examination of a woman threatened with abortion. If absolutely compelled to make an examination, he says, the finger should never be introduced until after the external genitals have been prepared as for a vaginal hysterectomy; otherwise, he says, puerperal infection is likely to ensue sooner or later and the physician alone will be responsible for it. If there is serious hemorrhage he insists on absolute repose with the patient lying flat; quiet is indispensable; if it cannot be obtained at home the patient should be sent to a hospital. If the hemorrhage persists and the physician is morally sure of the death of the fetus, curetting is in order, but there is no hurry, de Bovis says. He has had patients with hemorrhages for a month, one for four months and one for five or six months, and yet the pregnancy progressed to the birth of a living child. On the other hand, one patient insisted on being at once curetted and she died in a few hours from uncontrollable hemorrhage. The temperature will show when the ovum has separated sufficiently. When the patient is kept in an aseptic condition, that is, without local examination or other maneuvers, and hot douches are given only in numbers sufficient to combat alarming hemorrhage, the temperature keeps within normal range. Careful watching may show a slight rise; at the same time slight hemorrhage may recur or a very slight fetid odor may be noticed in the secretions. These signs show that the fetus is dead, that the placenta has become a foreign body and that the uterus is trying to expel it. This is the time for curetting if spontaneous expulsion does not rapidly follow. At this time the operation is easy and without danger, he says. In case of primary uterine infection with temperature above 38 C., the curette should be used at once. He remarks that it is easy to order injections at 45 or 48 C. (113 or 118 F.), but that they are generally given tepid and thus only aggravate the tendency to hemorrhage. Never forget, he reiterates, that each douche should be preceded by a careful toilet of the external genitals. In regard to curetting, he advises waiting until the uterus contracts, curetting gently during the period of relaxation after a contraction, and using the largest curette possible. The point is to curette at the moment when the placenta is almost entirely separated and the uterus offers a thick and resisting wall. Perforation may well be feared when there is infection in the uterus, for then one's hand is forced and the curetting may be done while the placenta is still too firmly adherent.

Berliner klinische Wochenschrift

October 17, XLVII, No. 42, pp. 1917-1956

69 Importance of Opsonins from Practical Standpoint. G. Michaelis.
70 *Relations Between Anaphylaxis and Infection. E. Friedberger.
71 *Anaphylaxis and Internal Secretion. R. Hoffmann.
72 Cultivation of *Spirochaeta Pallida*. (Erkennung des Syphiliserregers auf dem Wege der Züchtung der Spirochaete pallida.) J. Schereschewsky.
73 *Nature of Drug Eruptions. (Weitere Untersuchungen über das Wesen der Arzneiexantheme.) C. Bruck.
74 The Bacteriologic Complement. H. Liefmann and M. Stutzer.
75 *Treatment of Tuberculosis by Vaccination with Tuberculin. (Behandlung der Tuberkulose mittels Hautimpfung mit Tuberkulin.) W. Pöppelmann.
76 Disputed Points in Biology of Tubercle Bacilli. G. Deycke and H. Much.
77 Mountain Sickness. (Bergfahrten und ihre gesundheitlichen Folgen.) Grossmann.

70. **Differentiation of Albumin by Anaphylaxis Test.**—Friedberger reports research which seems to confirm his view that anaphylaxis is an extremely acute form of infection and that infection is merely a milder, more protracted form of anaphylaxis. He has succeeded in producing in animals the typical symptoms of bacterial infection by repeated injections of small amounts of alien albumen; a single large injection induces the symptoms of anaphylaxis. The most striking characteristic of the latter is the sudden drop in temperature while the most striking characteristic of bacterial infection, perhaps, is the continuous or remittent temperature, and this can be induced at will by repeated small injections of the same substance which in a single large dose induces the anaphylactic shock. He has worked out in this line a method for forensic differentiation of albumin which, he states, is constant and more sensitive than any of the tests hitherto in vogue, not excepting the deviation of complement and precipitin tests: The standards for intravenous injection of sheep serum in the guinea-pig, for instance, are 5 c.c. for the fatal dose; 0.5 c.c. for the dose inducing the drop in temperature; 0.01 the dose below which the temperature does not drop; 0.005 the dose which raises the temperature, and 0.001 c.c. the dose below which the temperature is not modified in any way. Subcutaneous injection of 0.01 c.c. of sheep serum confers anaphylaxis on the guinea-pig, so that intravenous injection two weeks later of one-thousandth of the standard doses mentioned above has the same effect as the above dosage in the unprepared animal. That is, 0.005 c.c. proves fatal; 0.0005 c.c. is the limit dose for the drop in temperature; 0.00001 c.c. the limit below which there is no drop in temperature; 0.000005 c.c. the fever-inducing dose, and 0.000001 c.c. the limit dose below which there is no change in temperature.

71. **Anaphylaxis and Internal Secretions in Connection with Hay-Fever.**—Hoffmann regards the thyroid as the accumulator for the vagus and the suprarenals for the splanchnic domain. Hyperfunctioning of the thyroid makes the vagus more irritable and thus favors the development of bronchial asthma. Hay-fever he explains as a condition of special sensitiveness to alien albumin, and thyroid hyperfunctioning is a powerful predisposing factor. Among the arguments in favor of this view are the occurrence of dermographism and urticaria in both hay-fever and exophthalmic goiter; the frequency of a tendency to goiter in hay-fever victims; the cure of all tendency to hay-fever in one of his patients, a chronic hay-fever victim, by operative removal of a goiter; the reflex conjunctival hyperemia, etc. induced in both hay-fever and hyperfunctioning of the thyroid by tickling the nasal mucosa; the resemblance between the syndrome of hay-fever and that of acute iodin poisoning, and, finally, by the similarity between the response on the part of the skin and temperature to subcutaneous injection of pollantin in hay-fever patients and of thyroidin in exophthalmic goiter. The main points in treatment of hay-fever are thus, he says, to check the functioning of the thyroid and to reduce the irritability of the nasal mucosa. Strumectomy is the most radical measure, but Roentgen-ray treatment may also prove effectual in checking thyroid hyperfunctioning. The irritability of the nasal mucosa can be combated by topical measures, by a constricting band around the neck, by injection of alcohol into the nerve or by severing the nerve, or by massage or cauterization of the

nasal mucosa or other measures. His clinical experience has been very favorable with treatment based on these principles, the guiding idea being that hay-fever—pollen disease—is due to a special susceptibility to an alien albumin contained in the pollen of certain plants, plus thyroid hyperfunctioning.

73. **Drug Eruptions as Anaphylaxis.**—Bruck states that a physician found that aphthæ developed on his lips and tongue every time and almost immediately after he took a dose of antipyrin. He consequently refrained from using this drug for sixteen years; then he took another dose of 1 gm. and immediately the old aphthous reaction developed at once. Experiments with his serum on guinea-pigs confirmed the assumption that his idiosyncrasy to antipyrin and its derivatives is an actual anaphylactic phenomenon, and that the anaphylaxis could be transmitted to animals by injection of his serum.

75. **Treatment of Tuberculosis by Inoculation of Skin with Tuberculin.**—Pöppelmann has applied the v. Pirquet technic for systematic administration of tuberculin, and lauds its numerous advantages over the more complicated usual technics while it seems to surpass them in the mildness, constancy and more gradual action of the tuberculin incorporated in this way. He dips the blade of the scalpel in the "old" tuberculin and spreads the droplet thus taken up on the skin of the upper arm. Then he scratches the skin with a single stroke of the scalpel, the same as for ordinary vaccination. After all subsidence of the local and general reaction, he makes another scratch, crossing the first. The third time he adds two more scratches, thus forming a double cross; the fourth time two more, forming a lattice-work of scratches, adding two each time. He gives some typical case-reports to show the simplicity and convenience of the technic and its special therapeutic advantages. It seems evident, he declares, that the skin possesses certain biologic factors which enhance the curative and tonic action of tuberculin given in this way. With this technic, he says, tuberculin treatment becomes possible in everyday routine practice.

Medizinische Klinik, Berlin

October 23, VI, No. 43, pp. 1683-1726

78 *Ehrlich's "606" in Syphilis. W. Weintraud.
79 *Cancer and Infectious Disease. (Krebs und Infektionskrankheiten.) R Schmidt.
80 Case of Disturbance in Heart Conduction. (Ueberleitungsstörung mit Vertauschung einer Umkehr der Schlagfolge.) D. v. Tabora.
81 Cardiac Neuroses. (Die sogenannte Herzneurosen.) M. Hers. Commenced in No. 42.
82 Lung Suction Mask in Treatment of Asthma. (Physikalische Behandlung des Asthma bronchiale.) E. Kuhn. Commenced in No. 42.

78. **Ehrlich's "606" in Syphilis.**—Weintraud concludes from his experience in 250 cases that syphilis is not definitely cured by a single injection of "606" and that no benefit can be anticipated from it in tabes. The syphilitic infection may injure a predisposed nervous system to such an extent that even the most thorough treatment may not prevent the development of tabetic spinal cord disease. In a few of his patients the new remedy failed to display any therapeutic action, and the Wassermann reaction persisted unmodified in many of the patients; in others, after a negative phase, it became positive again in a few weeks. The negative phase after treatment with "606," therefore, does not indicate a complete cure any more than after mercurial treatment. Recurrence was observed in fourteen out of eighty cases of recent and secondary syphilis. In only thirty-seven out of seventy-seven patients did the Wassermann reaction become permanently negative. In three cases the Wassermann reaction persisted unmodified even after a second and third injection of "606." He does not regard it as probable that the permanent results will be any better from increased dosage; in his experience intravenous infusion of the drug—which brings the whole organism under its influence more thoroughly—was not followed by a permanent cure any more than with the other technics. It seems that the body reacts as promptly and extensively to a small as to a large amount of the drug, and this reaction is the chief aim in the treatment of human beings, while in animals the aim is to kill all the spirochetes at one stroke. Repetition of the doses may prove effectual as with mercury. None of the symptoms in his twenty cases of tabes seemed to be influenced by the "606" but it displayed great efficacy in patients refractory or intolerant to mercury and iodid. There is grave danger, he continues, that physicians and the public will regard the problem of the cure of syphilis as too simple and as already solved. It must be reiterated that the cure of syphilis in man is a far more complicated process than the cure of experimental syphilis.

79. **Antagonism Between Infectious Diseases and Cancer.**—Schmidt has been much impressed with the fact that in 241 cases of carcinoma, ninety-nine of the patients had never had any infectious disease, either in childhood or adult life, and that forty-nine had had only one of the children's diseases and no infections later in life, and fifteen only one infectious disease in adult life. Only three of the total 241 patients had passed through two or more infectious diseases since puberty; 180 had had no children's diseases, and 140 no infectious disease in adult life. His cancer patients had thus not had their organisms modified by infectious diseases, consequently the conclusion is evident that the infectious processes must modify the constitutional soil in such a way as to reduce the predisposition to cancer. He suggests that modern prophylaxis of infectious diseases, steering away from the Scylla of infection is liable to strike on the Charybdis of cancer. He calls the number of infectious diseases the individual has passed through, the "infection index," and urges others to study whether this index is as strikingly low in their cancer cases as he has found it at Vienna.

Münchener medizinische Wochenschrift

October 18, LVII, No. 42, pp. 2169-2216

83 *Therapeutic Artificial Reduction of Pressure of Air in Lungs. (Die künstliche Luftdruckerniedrigung über den Lungen: eine Methode zur Forderung der Blutzirkulation.) O. Bruns.
84 The Oxidase Reactions in Frozen Sections. (Oxydasereaktionen an Gewebsschnitten.) v. H. Schultze.
85 *Durable Anesthesia of the Tuberculous Larynx by Alcohol Infiltration of the Superior Laryngeal Nerve. G. Roth.
86 *Heart Disease and Trauma. (Herzerkrankungen im Anschluss an ein Trauma.) C. Beckhaus.
87 Heart Disease as Contraindication to Administration of Ehrlich's "606. (Welche Herzerkrankungen bilden voraussichtlich eine Kontraindikation gegen die Anwendung von Ehrlich-Hata "606.") K. Grassmann.
88 Technic and Dosage of Ehrlich's "606" in Soluble Form. Dubot.
89 Ehrlich's "606" in Syphilis. K. Taege.
90 *Fatality After Injection of Ehrlich's "606" in Syphilis. E. Ehlers.
91 Technic of Intravenous Injections of Ehrlich's "606" in Children. W. Blacher.
92 Roentgen-Ray Treatment of Uterine Myomas. F. Bardachzi.
93 Irritation from Use of Iodized Benzin at Points Where Benzin Could Not Evaporate. R. Pürckhauer.
94 Importance of Disturbances in Lime Metabolism in Origin of Rachitis. (Bedeutung der Kalkstoffwechselstörungen für die Entstehung der Rhachitis.) W. Dibbelt.

83. **Stimulation of the Circulation by Differential Pressure in the Lungs.**—Bruns expatiates on the important part played by the respiration in promoting the circulation, and states that this influence can be enhanced by differential pressure procedures. The method he has found most convenient is the artificial rarefaction of the air breathed into the lungs. This he realizes by having the patient breathe freely through a mask into a large tank in which the pressure of the air has been reduced by 8 to 10 c.c. water. The respiration-rate increases by 4 and the pulse rate by 8 to the minute, while various tests reveal that the procedure induces a rapid and ample aspiration of venous blood upward. The arteries also feel the stimulating effect of the more rapid emptying of the veins and a secondary increased arterial flow toward the periphery is rendered evident by the plethysmograph. The procedure promotes the return flow of the venous blood and it is thus specially indicated, he states, in case of weakness of the heart action from impeded respiration, in heart disturbances from kyphoscoliosis, with pleuritic adhesions, emphysema with rigid thorax and atelectasic processes in the lungs. It may be indicated further in case of weak heart action in the obese and anemic, in persons in sedentary occupations and in

myocardial lesions from preceding overexertion. The contraindications are the same as for any physical measure; advanced failing compensation with much edema, aneurysm, thrombosis and impending embolism. Even with failing compensation, patients bore the application of the procedure for fifteen minutes at a time without disturbance, no vertigo, palpitation or dyspnea being observed; the relief was so pronounced that the patients asked to have the course of treatment continued.

85. **Alcohol Infiltration of Nerve in Laryngeal Tuberculosis.**—Roth extols the advantages of injection of alcohol to deaden the superior laryngeal nerve and thus free the patients from the pain in swallowing which torments the victims of laryngeal tuberculosis. He has applied the measure in thirty-three cases and the effect was the immediate suppression of the pain in all but one case; the analgesia persisted for from one to twenty-one days, averaging about a week. Repetition of the injection does no harm and the patients clamor for it. In one case he repeated the injection five times; the effect seems to be felt earlier and to persist longer as the injections are repeated. He disinfects the skin with alcohol and mercury bichlorid, and presses the larynx toward the side of the tenderest point and introduces the needle at this point for about 1.5 cm. and then twists the needle upward and outward; a sharp pain radiating to the ear shows that the nerve has been reached. Then about 1 gm. of 85 per cent. alcohol, warmed to 45 C. in the water bath, is cautiously injected. The typical sensitive point is easily found between the hyoid bone and the ala of the thyroid cartilage, where the internal branch of the superior laryngeal nerve pierces the thyrohyoid membrane. This branch is the sensory nerve for the inside of the larynx and trachea.

86. **Heart Disease Following Trauma.**—Beckhaus' experience with three cases has shown that myocarditis may develop insidiously after a fall on the left chest or contusion of this region. Two of his patients were men over 50, previously healthy. The third patient was a younger man, and the heart was found apparently sound four months after the accident, the myocarditis not developing symptoms until after this interval. The heart disease was much milder in the case in which the patient had been treated by a month of repose after the accident. In all cases of injury affecting the left chest, he says, special attention should be paid to examination of the heart and the possibility of an organic affection later should not be forgotten. Otherwise the symptoms when they develop are liable to be ascribed to neurasthenia or hysteria.

90. **Fatality After Injection of Ehrlich's "606."**—Ehlers injected the drug according to the Wechselmann technic. The patient was a man of 40 with paralytic dementia which had considerably improved under psychiatric treatment, so that he was able to walk and read the papers and understand part of what he read. He had had two apoplectiform attacks previously, one two years and one five weeks before the injection of "606." The injection was not followed by any local reaction but progressive symptoms on the part of the nervous system developed, tremor, sweating crises and weakness, and the patient died the fifth day of progressive heart weakness. No cause for the fatality could be discovered at necropsy except acute parenchymatous degeneration of the organs.

Therapeutische Monatshefte, Berlin

October, XXIV, No. 10, pp. 517-593

95 *Treatment of Fracture of the Humerus. P. Glaessner.
96 *Cure of Splenic Anemia by Successful Treatment of Pyelocystitis. (Einfluss einer chronischen Infektionskrankheit auf den Verlauf der Anemia splenica infantum.) G. Hartwig.
97 Fractioning Dose Increases Action of Narcotics. F. Beinaschewitz.

95. **Treatment of Fracture of the Humerus.**—Glaessner gives an illustrated description of the simple and convenient plaster cast which he applies for fracture of the humerus. It covers the top of the shoulder and extends over part of the chest and down to the wrist, fitting well over the chest from the axilla. After a week or so the outer third of the part on the arm and shoulder is cut out lengthwise, permitting massage, after which the segment is bound in place again. The results in the twenty-one cases in which this cast has been applied have been satisfactory.

96. **Splenic Anemia in Infants and Chronic Infectious Processes.**—In the two cases, reported by Hartwig, improvement or cure of a chronic pyelocystitis was followed by retrogression or cure of severe splenic anemia. He has noticed also aggravation of the anemia in such cases by frequently recurring coryza and bronchitis, most of the children succumbing finally to the bronchial process.

Wiener klinische Wochenschrift, Vienna

October 20, XXIII, No. 42, pp. 1471-1506

98 *Behavior of Esophagus with Dilatation of the Heart. (Verhalten des Oesophagus bei Herzvergrösserung.) F. Kovacs and O. Stoerk.
99 Hereditary Deafness and the Laws of Its Inheritance. V. Hammerschlag.
100 Anaphylaxis and Hemolysin Intoxication. H. Pfeiffer.
101 *Ehrlich's "606" in Syphilis. W. Pick and P. Ehrlich.

October 27, No. 43, pp. 1507-1542

102 Treatment of Supernumerary Ureters. B. Cristofoletti.
103 *Improved Technic for Preservation of Serums and Antigens. S. Stökel.
104 Blood Findings in Lymphogranulomatosis, Lymphosarcomatosis and Glandular Tuberculosis. E. Fabian.
105 Nature of Wassermann Reaction. H. Guth.
106 *Ehrlich's "606" in Syphilis. R. Polland, R. Knaur and J. Fürth.

98. **The Esophagus with Enlargement of the Heart.**—Kovacs and Stoerk give a number of illustrations showing compression and extreme displacement of the esophagus liable to occur with dilatation of the heart. As the compression is by a soft and yielding body, the flattening and displacement have little practical importance as there is no subjective disturbance.

101. **Ehrlich's "606" in Syphilis.**—Pick states that since his first publication on this subject recurrence of symptoms has been observed in some of the cases previously reported as cures. He encountered six refractory patients among the 200 treated.

103. **Solidified Serums and Antigens.**—Stökel has found that serums and antigens will keep perfectly when mixed with sodium sulphate to bind the water. One c.c. of immune serum mixed with from 0.7 to 1 gm. of calcined sodium sulphate is taken up and the whole solidifies and can be pulverized. The total weight of the mass is from 1.7 to 2 gm. and, dissolved in 100 c.c. of distilled water, produces an isotonic fluid, corresponding to a salt content of 0.7 to 1 per cent. and a dilution of the active serum to 1 per cent. His experiences have confirmed the great convenience and the reliability of this technic.

106. **Ehrlich's "606" in Syphilis.**—Polland and Knaur found the Wassermann reaction positive in twenty-five out of twenty-eight patients after complete subsidence of all symptoms. One patient had high fever, accelerated pulse and retention of urine for seven days after injection of the "606" by the old methyl-alcohol technic which has since been abandoned. They encountered several refractory cases. Fürth calls attention to certain peculiarities in the recurring and secondary symptoms after the use of Ehrlich's remedy. It is evident, he says, that clinicians will have to make a distinction between the manifestations of syphilis after mercurial treatment and after treatment with "606." The pathology of syphilis is about to be revolutionized, he thinks, along with the prognosis.

Zeitschrift für Kinderheilkunde, Berlin

I, No. 1, pp. 1-138

107 Importance of Lime Salts for the Child Organism. (Bedeutung der Kalksalze für den Organismus des Kindes. Auf Grund klinischer Bestimmungen des Blutkalkes nach Wright.) R. Neurath.
108 Nature of the Physiologic Decline in Weight of New-Born Infants. (Wesenserklärung der physiologischen Gewichtsabnahme der Neugeborenen.) F. Rott.
109 Absorption of Diphtheria Antitoxin. (Quantitative Bestimmung des Resorptionsverlaufes subcutan eingeführten Diphtherieheilserums mittels intracutaner Methodik.) M. Karasawa and B. Schick.
110 Salt Fever in Infants. (Zur Frage des Kochsalzfiebers beim Säugling.) H. Nothmann.
111 Infant Mortality and the Outdoor Temperature in Winter. (Säuglingssterblichkeit und Aussentemperatur im Winter.) H. Risel.

112 The Energy Requirements of Artificially Fed Infants. (Energiebedarf künstlich genährter junger Säuglinge.) M. Calvary.

113 Graphic Representation of Factors to be Regarded in Infant Feeding. (Schematische Darstellung der Säuglingsernährung zu Unterrichtszwecken.) C. v. Pirquet.

114 The Osmotic Pressure of the Blood in Infants. (Die physikalischen Erscheinungen des Blutes beim gesunden und kranken Säugling.) B. Salge.

Zentralblatt für Chirurgie, Leipsic

October 22, XXXVII, No. 43, pp. 1393-1416

115 Transthoracal Cardiotomy for Impassable Cicatricial Stenosis of the Esophagus. H. Fischer (New York).

116 *Operation for Exstrophy of the Bladder. (Zur Operation der Blasenspalte.) F. Roloff.

October 29, No. 44, pp. 1417-1440

117 Contra-Indications for Intravenous Saline Infusion. R. Berteismann.

118 Management of the Colon After Resection and Suture. C. Bayer.

116. Treatment of Exstrophy of the Bladder.—Roloff's patient was a healthy, stout girl of 6. He cut out a segment of the bladder wall containing the mouths of the ureters, and then, through a laparotomy incision, slit the bowel at the sigmoid flexure. Twisting the segment of the bladder forward and upward, making a turn of about 180 degrees, he sutured it in the slit in the bowel. The uterus rested in the angle formed by the ureters and trigonum and was fastened here with a few sutures. The functional result was perfect from the first; the child is continent and there has been no disturbance to date. He suggests that this technic might be improved on by suturing the segment of bladder into a stretch of cecum plus some of the ileum, after exclusion of this section of the bowel, twisting the appendix around and suturing it in the rectum. Ascending infection from the bowel would be impeded by Bauhin's valve even if it could pass upward through the narrow appendix, the constant flow of urine being all the other way. The operation might be done at two sittings, the appendix being thoroughly sterilized and prepared during the interim.

Zentralblatt für Gynäkologie, Leipsic

October 29, XXXIV, No. 44, pp. 1409-1440

119 *Death of Parturient Allowed to Get Up Early After Abortion. (Ein Todesfall nach Frühaufstehen im Wochenbett.) A. Scherer.

120 Operative Treatment of Large Postoperative Ventral Hernia. S. Lindqvist.

119. Death of Parturient Allowed to Get Up Early.—Scherer states that he has been able to find records of only two or three fatalities from the custom of allowing parturients to get up earlier than has been the rule until within the last year or so. But he here reports a case in which the woman was allowed to get up and sit in a chair for half an hour on the third day after abortion at the third month. The temperature ran up the next day and fatal thrombosis developed in the pelvic veins. He remarks that if the patient had not left the bed so early the thrombosis might not have developed or the localization of the process might have been more favorable and the outcome better if the patient had been kept in bed longer. Among the 9,257 deliveries at the Budapest clinic, with which he is connected, thrombosis developed in only thirty-four cases, that is, in 0.36 per cent., and the outcome was fatal in only one of the two cases complicated by pulmonary embolism. On the other hand, this case of fatal thrombosis occurred in the small group of 200 parturients allowed to get up earlier than the usual rule.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 6, XXXI, No. 120, pp. 1265-1272

121 Viscosity of Blood and the Eosinophils in Epileptics and the Insane. G. Vidoni and S. Gatti.

October 23, No. 127, pp. 1337-1352

122 Test Diets in Intestinal Disease. (Le Diete di prova per l'esame delle funzioni intestinali.) M. V. Carlettl.

Policlinico, Rome

October 23, XVII, No. 43, pp. 1347-1378

123 *Early Diagnosis of Gastric Cancer. (La diagnosi precoce del cancro dello stomaco in relazione coll'intervento chirurgico.) G. Benacchio.

124 Treatment of Hypertrophy of the Prostate by Bottini's Galvano-Caustic Method. A. Rosal.

October, Surgical Section, No. 10, pp. 429-476

125 Isolated Tuberculous Focus in the Myometrium. (Tubercuiosi del corpo dell'utero limitata al miometrio.) R. Alessandri.

126 Retrograde Incarceration of Intestine. (Stromazmento intestinale retrogrado.) A. Passaggi.

127 Streptothrix Experimental Infection. (Sulle streptotricee e sulla loro azione negli animali da esperimento.) F. Purpura.

128 Fracture of the Carpal Scaphoid Bone. (Fratture dello scafoide del carpo.) R. Gabaglio. Commenced in No. 8.

123. Early Diagnosis of Gastric Cancer.—Benacchio reviews the various methods in vogue for detecting incipient gastric cancer, and adds that they mostly require special skill and experience for the technic of the tests and interpretation of the findings. Consequently the general practitioner should refer his patient to the specialists for these tests when he has the slightest suspicion that the patient may be developing gastric cancer. This is his task, and on his performance of this task depend the fate of the patient and the progress of science in this line.

Riforma Medica, Naples

October 17, XXV, No. 42, pp. 1119-1176

129 Intermittent Gastric Hypersecretion. (Gastropatie dinamiche ed organiche. VII.) G. Rummo.

130 Experimental Syphilids in the Rabbit. V. Chirivino.

Ugeskrift for Læger, Copenhagen

October 6, LXXII, No. 40, pp. 1189-1216

131 Ehrlich's "606" in Leprosy. E. Ehlers.

132 Comparative Tests of Various Methods for Bacteriologic Examination of Sputum. (Om Værdien af forskellige Homogeniserings- og Sedimenteringsmetoder til Paavisning af T. B. i Expektorat.) P. Bogason.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

BACTERIOLOGY AND SURGICAL TECHNIC FOR NURSES. By Emily M. A. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Third Edition, revised by Frederic R. Griffith, M.D. (Univ. of Penn.), Surgeon, Fellow of the New York Academy of Medicine. Cloth. Price, $1.50 net. Pp. 311, with 204 illustrations. Philadelphia: W. B. Saunders Co., 1910.

ATLAS UND GRUNDRISS DER VERBANDLEHRE FÜR STUDIERENDE UND ÄERZTE. Von Dr. Albert Hoffa, a. o. Professor an der Universität, Berlin. Nach des Verfassers Tod bearbeitet von Privatdozent Dr. Rudolf Grashey, München. Lehmann's Medizinische Handatlanten. Band XIII. Fourth Edition. Cloth. Price, 10 marks. Pp. 152, with 170 illustrations. München: J. F. Lehmanns Verlag, 1910.

PROCEEDINGS OF THE TWENTY-EIGHTH ANNUAL MEETING OF THE MARYLAND PHARMACEUTICAL ASSOCIATION. Baltimore, June 16 to 19, 1910. Together with the Code of Ethics, Constitution and By-Laws, List of Officers and Members, etc. Paper. Pp. 252. E. F. Kelly, Secretary, 1003 W. Pratt Street, Baltimore.

TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Professor of Dermatology in the Jefferson Medical College, Phil. Sixth Edition. Cloth. Price, $6 net. Pp. 1195, with 323 illustrations. Philadelphia: W. B. Saunders Co., 1910.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Second Edition. Cloth. Price, $3 net. Pp. 594, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1910.

THE REFRACTIVE AND MOTOR MECHANISM OF THE EYE. By William N. Souter, M.D., Associate Ophthalmologist, Episcopal Eye, Ear and Throat Hospital, Washington, D. C. Cloth. Price, $2. Pp. 347, with 148 illustrations. Philadelphia: The Keystone Publishing Co., 1910.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. By R. H. Aders Plimmer, D.Sc., Assistant Professor of Physiological Chemistry, University College, London. Cloth. Price, $1.90. Pp. 270, with 49 illustrations. New York: Longmans, Green & Co., 1910.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. Authors and Subjects. Second Series. Vol. XV. S.—Skin Grafting. Cloth. Pp. 777. Washington: Government Printing Office, 1910.

INSANITY IN EVERY-DAY PRACTICE. By E. G. Younger, M.D. Brux, Senior Physician, Finsbury Dispensary. Second Edition. Cloth. Price, $1.25. Pp. 124. Chicago: Chicago Medical Book Co., 1910.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1911. New Revised Edition. Leather. Price, $1.50. Sixty Patients per Week. New York: William Wood & Co. (1910).

HISTORY OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA. 1817-1909. Cloth. Price, $3. Pp. 499, with illustrations. Washington: Medical Society of District of Columbia, 1909.

THE PRACTITIONER'S VISITING-LIST FOR 1911. Leather. Price, $1.25. Pp. 192. Thirty Patients per Week. Philadelphia: Lea & Febiger, 1910.

THE JOHN CREHAR LIBRARY HANDBOOK, 1910. Paper. Pp. 16. Chicago: John Crerar Library, 1910.